

PENNVEST Nutrient Credit Clearinghouse Rulebook

Version 8

July 10, 2017

Table of Contents

Chapter 1 – Definitions	2
Chapter 2 – Clearinghouse Objectives	6
Chapter 3 – PENNVEST Clearinghouse Procedures for Enrolled Participants	8
Chapter 4 – Market Events	14
Chapter 5 – Auction Format and Structure	22
Chapter 6 – Overview of Steps to Participate	24
Chapter 7 - Buy-Side Eligibility Requirements	26
Chapter 8 – Sell-Side Eligibility Requirements	29
Chapter 9 – Payment and Credit Transfer Procedures	33
Chapter 10 – Buyer or Seller Non-performance; Assignment; Program Changes	35
Appendix 1 – Auction Term Sheet	39
Appendix 2A – Auction Examples (Multiple Rounds)	45
Appendix 2B – Auction Examples (Auction Methodology)	47
Appendix 3 – Documents and Forms	53
Checklist- Required Documents for Participation in PENNVEST Clearinghouse	53
A3.1 Sample Board Resolution	55
A3.2 Clearinghouse Services Form for Bilaterally Negotiated Contracts	57
A3.3 New Growth and Option Pool Form	58
A3.4 Letter of Intent	60
Appendix 4 – Auction Rules	62

Chapter 1 – Definitions

Aggregator – shall mean a person that arranges for the sale of Credits generated by another person, or arranges for the pollutant reduction activity to be certified, and the Credits to be registered.

Auction – shall refer to an auction held by the PENNVEST Clearinghouse which serves to establish a single auction-specific Credit price such that validly binding offers to sell Credits to PENNVEST posted by Sellers and validly binding offers to buy Credits from PENNVEST posted by Buyers will be equal in the aggregate at that price. The auctions will initially be uniform price auctions.

Auction Rules – shall mean the terms and conditions each Enrolled Participant agrees to in participating in an Auction under the PENNVEST Clearinghouse, as more particularly described in Appendix 4 of this Rulebook.

Auction Services Provider – shall mean an entity or organization that will serve as auctioneer by administering Forward Contract Auctions or Spot Contract Auctions on behalf of PENNVEST.

Authorized Representative – shall mean an individual from an entity or organization that has been granted discretionary trading authority to utilize PENNVEST Clearinghouse services.

Bilaterally Negotiated Contract - shall mean those contracts in which the terms of the sale and purchase of Credits have been privately negotiated by Buyer and Seller.

Buyer - shall mean an entity, individual or organization that purchases Credits from PENNVEST.

Call Option Contract – shall mean a contract in which the Buyer pays a premium for the right but not the obligation to purchase Credits at or by a fixed date at an agreed-upon price.

Certified Credits – shall mean Credits that have been or will be generated by a proposed or implemented pollutant reduction activity that has been certified to generate credits.

Clearinghouse Rules – shall mean the governing procedures and operational guidelines for the PENNVEST Clearinghouse, as set forth in this Rulebook, the Auction Rules, any advisories, circulars, notices, directives or decisions adopted or made by PENNVEST in accordance with the PENNVEST Clearinghouse, and any and all contracts by and

between PENNVEST and the Enrolled Participant relative to the PENNVEST Clearinghouse.

Compliance Year - shall mean the year long period starting October 1 and ending September 30 in which Credits may be used to meet NPDES permit effluent limitations. The Compliance Year will be named for the year in which it ends. Example: The period of October 1, 2010 through September 30, 2011 is Compliance Year 2011.

Credit – shall mean a tradable unit of compliance that corresponds with a unit of reduction of a Nutrient or of Sediment as recognized by DEP which, when certified, verified and registered may be used to comply with NPDES permit effluent limitations.

DEP – shall mean the Pennsylvania Department of Environmental Protection.

Developer – shall mean an entity, individual or organization responsible for purchasing Credits to offset new or expanded discharges associated with the development of a property for residential, commercial, or other uses.

Enrolled Participant – shall mean an entity, individual or organization that has established eligibility in the PENNVEST Clearinghouse.

Forward Contract – shall mean a contract between PENNVEST and Seller wherein Seller agrees to deliver to PENNVEST a specified quantity and type of Registered Credits at a specified future date at an agreed upon price, or a contract between PENNVEST and Buyer wherein Buyer agrees to buy from PENNVEST a specified quantity and type of Registered Credits at a specified future date at an agreed upon price. Prior to entering into a Forward Contract for the purchase of credits, the credits must be Certified Credits. Under Forward Contracts, parties expect to make or take delivery of the Registered Credits, or the proceeds of the same, on the agreed upon date.

Implemented Project – shall mean a project that produces Credits that has been certified by DEP and that has been completed regardless of any potential sale of Credits.

Letter of Intent – shall mean the letter submitted by a Developer to DEP evidencing the Developer's intent to purchase Credits to offset new or expanding discharges.

NPDES - shall mean the National Pollutant Discharge Elimination System.

Nutrient – shall mean nitrogen or phosphorus.

Option Pool – shall mean the pool of Credits PENNVEST will create and make available to Developers who may want an option to purchase Credits. PENNVEST will create this pool by soliciting offers from Sellers who are willing to reserve Credits for Developers.

Option Premium – shall mean the amount the Developer is willing to pay and the Seller is willing to accept as consideration for executing the Call Option Contract.

Pennsylvania’s Nutrient Credit Trading Program – shall refer to the program through which NPDES permittees can meet effluent limits by purchasing Credits from entities that conduct practices that go beyond baseline and threshold obligations for removal of Nutrients or Sediment from a watershed. This program is expected to be codified in 25 *Pa. Code* § 96.8.

PENNVEST – shall mean the Pennsylvania Infrastructure Investment Authority.

PENNVEST Clearinghouse – shall mean the Credit exchange maintained by PENNVEST whereby the agency becomes a counterparty to each party of Credit trading transactions by acting as the buyer to each seller trading in the exchange and the seller to each buyer trading in the exchange.

PENNVEST Website – shall mean PENNVEST’s internet site located at the time of this printing at <http://www.pennvest.state.pa.us>.

Planned Project – shall mean a project that will produce Credits that has been certified by DEP and will be installed regardless of whether the Credits are under a sales contract.

Registered Credits – shall mean Credits to which DEP has assigned a registration identification number in DEP’s tracking system, which identifies all credits that may be used to comply with NPDES permit effluent limits.

Regulated Point Source – shall mean any entity, individual or organization, including wastewater treatment works owned or operated by municipalities or municipal authorities, Developers and others that are responsible to comply with an NPDES permit.

Rulebook – shall mean the PENNVEST Nutrient Credit Clearinghouse Rulebook, as may be amended from time to time.

Sediment – shall mean soils or other erodible materials transported by stormwater as a product of erosion.

Seller – shall mean an entity, individual or organization that sells the Credits to PENNVEST.

Single-Year Contract – shall mean a Forward Contract for the purchase or sale, for the future delivery and payment of Registered Credits for a one-year period at an agreed to price and date.

Spot Contract – shall mean the purchase or sale, through a single trade for immediate delivery through the PENNVEST Clearinghouse, of a specified quantity of Registered Credits at an agreed upon price.

Strip Contract – shall mean a Forward Contract for the purchase or sale and future delivery and payment of Registered Credits for similar credits over a three-year successive range at agreed upon prices and dates. For example, SU-N-11, SU-N-12, SU-N-13 can be part of the same strip, while SU-N-11 and PO-N-12 cannot be part of the same strip.

Chapter 2 – Clearinghouse Objectives

2.1 Introduction: PENNVEST Clearinghouse Service

To foster market functionality, PENNVEST will enter into contracts to sell Credits in Pennsylvania's Nutrient Credit Trading Program to Regulated Point Sources that must comply with their NPDES permit effluent limits. PENNVEST will purchase these Credits through corresponding contracts with credit suppliers.

By providing this service to market participants, PENNVEST intends to help achieve the following objectives:

- Enable local governmental units, municipal authorities and others to procure Credits from an instrumentality of the state acting as the clearinghouse agent,
- Reduce search costs faced by Credit market participants,
- Reduce negotiation costs by enabling parties to enter into a single contract with PENNVEST and avoid the costs of negotiating contracts with other participants on a case-by-case basis,
- Reduce compliance risk from contract default through the ability to access a diverse portfolio of potential Sellers, and
- Eliminate market participant's involvement with counterparty contract enforcement.

PENNVEST's services will not preclude or prohibit the private purchase and sale of Credits through Bilaterally Negotiated Contracts, and nothing contained herein shall prohibit the purchase or sale of Credits outside the PENNVEST Clearinghouse.

2.2 Rulebook Updates and Communication

As appropriate, PENNVEST will amend this Rulebook to reflect the needs of Enrolled Participants, regulatory developments, and other considerations. Each amendment will be identified by a revision date. Any amendments to the Rulebook, as well as information on market events, informational activities, and program developments, will be posted on the PENNVEST Website.

2.3 Types of Market Events

There are four types of market events that PENNVEST will consider administering. These are described in Chapter 4.

2.4 Advisory Committee

PENNVEST will develop an advisory committee of market participants and stakeholders that it will consult and keep informed of developments. To avoid redundancies, this committee may be coordinated with other DEP workgroups, including the Nutrient Trading Workgroup.

2.5 Nutrient Trading Program

PENNVEST's Clearinghouse is a collaborative effort between DEP, as the environmental and regulatory arm, and PENNVEST, as the clearinghouse, to promote stability in Pennsylvania's Nutrient Credit Trading Program. DEP will certify and register Credits and PENNVEST will purchase those Credits from suppliers. In turn PENNVEST will sell the Credits to Regulated Point Sources, who can use the Credits for compliance with NPDES permitting requirements.

2.6 Organizational Structure

PENNVEST will maintain a management structure, document retention policy, and quality assurance / quality control procedures to facilitate the administration of the PENNVEST Clearinghouse.

Chapter 3 – PENNVEST Clearinghouse Procedures for Enrolled Participants

3.1 Overview

This section outlines Enrolled Participant conduct and responsibilities and governing procedures that pertain to Enrolled Participants in the PENNVEST Clearinghouse.

3.2 Duties and Obligations

3.2.1 General Provisions

Each Enrolled Participant shall abide by the Clearinghouse Rules. Each Enrolled Participant shall keep and maintain a current copy of the Clearinghouse Rules in a readily accessible place. Any violation of the Clearinghouse Rules by any employee or representative of an Enrolled Participant shall constitute a violation of the Clearinghouse Rules by such Enrolled Participant. A current version of the Clearinghouse Rules, including but not limited to, this Rulebook, the Auction Rules, all operational guidelines from PENNVEST and all contracts between PENNVEST and the Enrolled Participant, can be found on the PENNVEST Website.

3.2.2 Fulfillment of Obligations

Each Enrolled Participant shall be fully responsible for the timely performance of all obligations stated in the Clearinghouse Rules and any and all other obligations associated with purchase or sale of Credits through PENNVEST.

3.2.3 Maintenance of Records

Each Enrolled Participant shall maintain records of all interactions with the PENNVEST Clearinghouse. Such records shall include, but are not limited to, evidence of enrollment, and orders placed in Forward Contract Auctions, Spot Contract Auctions, Call Option Contracts or Bilaterally Negotiated Contracts entered into with PENNVEST as a result of the same and any contracts with underlying project owners.

3.2.4 Addresses and Contact Information

Each Enrolled Participant shall file and maintain with the PENNVEST Clearinghouse its current address and contact information. Such information must include:

1. Name of Enrolled Participant,
2. Address (must be a physical location, not a post office box),
3. Email address, and
4. Name, address and email address of the primary contact person, if different from those listed above.

Enrolled Participants shall promptly inform the PENNVEST Clearinghouse of any change in the designated contact person or employee, or any related contact information.

3.2.5 Supervision of Employees and Representatives

Each Enrolled Participant shall diligently supervise all activities of its employees and representatives in all matters involving the PENNVEST Clearinghouse to ensure compliance with the Clearinghouse Rules and contracts by and between Enrolled Participant and PENNVEST. Without limiting the generality of the foregoing, each Enrolled Participant agrees to train its employees and agents as appropriate on the Clearinghouse Rules and the proper use of the PENNVEST Clearinghouse.

3.3 Fees and Payments

PENNVEST shall have the sole power and discretion to set the due dates and amounts of any fees, dues, charges and assessments to be levied against Enrolled Participants, and which fees, dues, charges and assessments shall be paid to PENNVEST. Such fees, dues, charges and assessments can include, but are not limited to:

- Initial Application Fees
- Annual Dues
- Transaction Fees

PENNVEST shall have the authority to waive or offer discounts on fees, dues, charges and assessments. PENNVEST may modify the fee structure at its sole discretion. If an Enrolled Participant fails to pay any PENNVEST Clearinghouse fees, dues, charges or assessments (or any installment thereof) within thirty days of such assessment, the Enrolled Participant may be suspended until such assessment, or installment thereof, is paid. If such payment obligation remains unsatisfied for six consecutive months PENNVEST may terminate, suspend or otherwise limit the privileges of such Enrolled Participant.

3.4 Prohibited Conduct

No Enrolled Participant shall:

(1) disseminate or otherwise perpetrate any false, misleading or inaccurate information, including reports concerning any Credit contracts traded through the PENNVEST Clearinghouse, or market information or conditions that affect or tend to affect the price of any contract traded through the PENNVEST Clearinghouse;

(2) manipulate, or attempt to manipulate, the price of any contract or instrument traded through the PENNVEST Clearinghouse;

(3) furnish false or misleading information to, or fail to furnish information when requested by, any representative of PENNVEST, DEP or the Auction Services Provider;

(4) violate or fail to comply with the Clearinghouse Rules or any applicable laws;

(5) enter any bids, offers or transactions when such Enrolled Participant knows or should have known that it is insolvent, within the meaning of any applicable state, federal or foreign bankruptcy or insolvency laws, without the prior written approval of PENNVEST;

(6) violate, or fail to comply in a timely manner with, the terms of any agreement between the Enrolled Participant and PENNVEST, or of any order or decision of PENNVEST;

(7) enter any bids or offers, other than in good faith, for the purpose of executing transactions, or make any bid or offer for the purpose of establishing a market price which does not reflect the true state of the market;

(8) knowingly enter into a transaction through PENNVEST for the purpose of manipulating the market;

(9) engage in conduct or practices inconsistent with just and equitable principles of trade or detrimental to the best interests of the PENNVEST Clearinghouse;

(10) engage in conduct that is counter to the goals of the PENNVEST Clearinghouse;

(11) disclose confidential information obtained in the course of participation in, or proceedings of, a PENNVEST Clearinghouse committee, hearing or investigation;

(12) engage in unlawful conduct or behave in a manner that is inconsistent with the highest standards of professional and personal decorum;

(13) engage in anticompetitive or collusive market activity; or

(14) disclose confidential information about other market participants or other information that PENNVEST has requested remain confidential.

PENNVEST and the Auction Services Provider shall treat all bids, offers, and other sensitive market information clearly identified as confidential information by the Enrolled Participant as confidential and PENNVEST shall not disclose any such information to any potential or actual market participant unless otherwise compelled to do so by law, court order or by determination of the Pennsylvania Office of Open Records.

3.5 Trading Prohibition, Prohibited Individuals

The following individuals shall be prohibited from using PENNVEST Clearinghouse services:

1. Employees and family members of employees of PENNVEST, DEP or the Auction Service Provider;
2. Employees and family members of employees of any PENNVEST Clearinghouse agent or contractor hired by PENNVEST, DEP or the Auction Service Provider relative to the PENNVEST Clearinghouse; and
3. Any contractor or business affiliate of a PENNVEST, DEP or Auction Services Provider employee or family member.

3.6 Application of Rules and Jurisdiction

By executing any applicable enrollment documentation, paying any applicable Enrolled Participant fees, executing any contract with PENNVEST, or otherwise exercising any of the privileges to which Enrolled Participants are entitled in the PENNVEST

Clearinghouse, each Enrolled Participant agrees without any need for further action, undertaking or agreement, to be bound by and comply with the Clearinghouse Rules and applicable law with respect to any and all matters arising from, related to, or in connection with, the status, actions or omissions of such Enrolled Participant.

3.7 Indemnification

The Enrolled Participant, for itself and all those claiming under or through it, agrees to protect, indemnify, defend and hold harmless PENNVEST, its officers and employees, and any operator or consultant retained by the PENNVEST Clearinghouse to implement the Auction or otherwise, from and against any and all liability, expense, or damage of any kind or nature and from any suits, claims or demands, including reasonable legal fees and expenses, arising out of any agreement with the PENNVEST Clearinghouse or in connection therewith including, but without limitation, any disputes arising between the Enrolled Participant, or any subcontractors, or suppliers that provided materials for the project, or on account of any act, or omission to act, or negligence of PENNVEST or an agent. This indemnification specifically survives any Auction or contract entered into for the purchase or sale of Credits.

3.8 Violation of a Clearinghouse Rule

Violation of the Clearinghouse Rules is strictly prohibited and PENNVEST in its sole discretion may suspend membership of an Enrolled Participant when it reasonably believes that the Enrolled Participant has violated the Clearinghouse Rules. Where PENNVEST in its sole discretion decides to suspend membership rights, PENNVEST shall notify the previously Enrolled Participant in writing of the following:

- (a) the action taken or to be taken;
- (b) the reason(s) for the action; and,
- (c) the effective date and duration of the action.

If an Enrolled Participant fails or refuses to perform under the terms of any contract for the purchase or sale of Credits, such Enrolled Participant may be suspended from participation in the PENNVEST Clearinghouse.

PENNVEST may provide for an administrative process to resolve disputes and controversies relating to any violation of the Clearinghouse Rules by the Enrolled

Participant. If such a process is implemented by PENNVEST, it will be posted on the PENNVEST Website.

3.9 Dispute Resolution

PENNVEST shall have full discretion to apply its best judgment and discretion to resolve issues and respond to circumstances, including external events, in its administration of the PENNVEST Clearinghouse. For any dispute or controversy not so resolved, and not otherwise subject to resolution under Section 3.8 that arises out of or relates to a contract or breach thereof, the parties shall first attempt to settle the dispute through good faith negotiation. If the dispute cannot be settled through negotiation, the Enrolled Participant shall request and obtain a final written decision from the PENNVEST Clearinghouse, and thereafter may file a statement of claim with the Commonwealth Board of Claims.

Chapter 4 – Market Events

4.1 Overview

PENNVEST will offer various services to Enrolled Participants that meet their needs and reflect market evolution and experience. They include:

- Forward Contract Auctions for Certified Credits;
- Spot Contract Auctions near the end of the Compliance Year for verified Credits that can be registered upon completion of the auction;
- Clearinghouse services for contracts involving prices and quantities that are bilaterally negotiated between the parties; and
- Call Option Contracts for a Developer that is purchasing Credits to offset new or expanded discharges.

4.2 Forward Contract Auctions for Certified Credits

4.2.1 Objective

Forward Contract Auctions will assist Regulated Point Sources that desire price certainty and compliance assurance as part of a long-term compliance strategy. Multi-year contracts may also be desirable to Sellers who seek long-term assurance of their ability to sell credits. PENNVEST will conduct periodic Forward Contract Auctions for either Single-Year Contracts or Strip Contracts. The length of time covered by Strip Contracts will be customized to satisfy Buyer and Seller needs that may vary over time. PENNVEST will act as a clearinghouse by executing countervailing Forward Contracts with both Buyers and Sellers.

4.2.2 Determination of Price and Quantity

The market clearing price and quantity of transacted Credits will be determined through a competitive Auction. Multiple bidders and offerors may participate in an Auction. The Auction format and procedure are outlined in Chapter 5.

4.2.3 Schedule of Market Events

The frequency of Forward Contract Auctions will be dependent on market demand. PENNVEST will notify Enrolled Participants of the Auction by maintaining an updated schedule on the PENNVEST Website.

4.2.4 Eligibility Requirements to Participate in Auctions

Buyers and Sellers must satisfy eligibility requirements to participate in Forward Contract Auctions. These requirements are described in Chapters 7 and 8.

4.2.5 Forward Contract Provisions

Forward Contracts will include conditions and clauses that address, among other things, timing of performance, events of default, force majeure provisions and regulatory changes. These are addressed in Chapter 10.

4.3 Spot Contract Auctions for Verified Credits

4.3.1 Objective

PENNVEST will offer Spot Contract Auctions for verified Credits dependent upon market demand. Spot Contract Auctions offer the owner of verified Credits which are not under contract for sale, an opportunity to sell the Credits to PENNVEST and coincidentally offers PENNVEST the opportunity to sell the verified Credits to Regulated Point Sources. Upon completion of the auction the Credits must be registered. For example, if a Regulated Point Source needs a greater quantity of credits for compliance than it initially planned, the Spot Contract Auction will allow the Regulated Point Source an opportunity to comply with its permit requirements in the Compliance Year by purchasing verified Credits sufficient to meet compliance requirements. Spot Contract Auctions will generally occur near or at the end of the Compliance Year. As with Forward Contract Auctions, PENNVEST will act as a clearinghouse for participants in the Spot Contract Auction.

4.3.2 Determination of Price and Quantity

The PENNVEST Clearinghouse price and quantity will be determined through a competitive Auction. The Auction format and procedure are outlined in Chapter 5.

4.3.3 Timing of Auction

Spot Contract Auctions may be conducted once per year, near the end of the Compliance Year but could be offered more frequently, as needed.

4.3.4 Eligibility Requirements to Participate in Spot Contract Auctions

4.3.4.1 Requirements for Prospective Buyers

Buyers must have funds posted in full prior to the beginning of the Spot Contract Auction. Buyers will not be allowed to bid for Credits in an amount greater than the amount posted.

4.3.4.2 Requirements for Prospective Sellers

Sellers must have evidence from DEP demonstrating that the Credits are verified and can be registered. Acceptable evidence may include a copy of a DEP acknowledgement that Credits have been verified. Other requirements will be specified and disseminated via issued advisories from PENNVEST, or its' Auction Services Provider, which will be posted on the PENNVEST Website or the Auction Services Provider's website.

4.4 PENNVEST Clearinghouse Services for Bilaterally Negotiated Contracts

4.4.1 Objective.

Regulated Point Sources may wish to privately negotiate the sale or purchase of Credits from identified counterparties, such as owners of nonpoint source projects. They may prefer not to enter a competitive Auction where the identity of the Seller is unknown. Parties to Bilaterally Negotiated Contracts can use the PENNVEST Clearinghouse to "clear" the transaction by using pre-specified contract terms.

4.4.2 Determination of Price and Quantity

The price and quantity of Credits in Bilaterally Negotiated Contracts will be negotiated between the two parties.

4.4.3 Schedule of Market Events

PENNVEST's participation in a Bilaterally Negotiated Contract will be considered on a case-by-case basis as interest arises. PENNVEST will agree to consider providing clearinghouse services for all Bilaterally Negotiated Contracts by and between Enrolled Participants but it is not obligated in any way to accept any single Bilaterally Negotiated Contract at any time. The determination to provide its clearinghouse services is at the sole discretion of PENNVEST, which determination shall not be subject to appeal.

4.4.4 Eligibility Requirements

Buyers and Sellers must satisfy PENNVEST Clearinghouse eligibility requirements to be eligible to use PENNVEST's Clearinghouse services for Bilaterally Negotiated Contracts. These requirements are outlined in Chapters 7 and 8.

4.4.5 Bilaterally Negotiated Contract Provisions

Bilaterally Negotiated Contracts using PENNVEST's Clearinghouse services will include conditions and clauses that address, among other things, timing of performance, events of default and force majeure. These are outlined in Chapter 10.

4.4.6 Replacement Credits

In the event of sell-side nonperformance, PENNVEST will undertake the procedures outlined in Chapter 10 to procure replacement Credits for the Buyer. However, PENNVEST makes no guarantee or stipulation that the replacement Credits PENNVEST is able to procure will be similar in geographic region, project type, or any other attribute to the Credits from the project in the initial contract.

4.5 Call Option Contracts for Developers

4.5.1 Objective

Developers may purchase Credits from PENNVEST using any of the market services described above in Sections 4.2, 4.3 and 4.4. A letter of intent may be used by Developers to obtain and comply with Act 537 planning requirements and upon execution of the option under a Call Option Contract, the resulting Forward Contract may be used to obtain and comply with an NPDES permit for a new or expanding discharge. The Call Option Contract also offers Sellers the opportunity to submit binding offers for Credit amounts and price combinations for inclusion in the Option Pool, with the understanding that these Credits could be accessed by Developers to offset new or expanding discharges.

4.5.2 Call Option Contract Procedure

Developers or Sellers interested in entering into a Call Option Contract must submit a "New Growth and Option Pool Form" to PENNVEST indicating the number and type of Credits, as well as the applicable Compliance Year and the price and proposed Option Premium the party is willing to pay or accept. A sample New Growth and Option Pool Form is included as Appendix A3.3.

Submitted Option Pool information will be displayed to interested Developers, with the identities of the Seller remaining anonymous. Developers may be given the opportunity to view all price-premium combinations to decide which offer they prefer.

Once PENNVEST has a Developer and Seller match, the parties will enter into a Letter of Intent, a sample of which is included as Appendix 3.4. Then, as soon as practical upon execution of the Letter of Intent, the parties will enter into a Call Option Contract, which will outline in more detail the right of the Developer to exercise the option to purchase the applicable type and amount of Credits. At the time the parties execute the Call Option Contract, the Developer will be required to pay to PENNVEST the Option Premium plus any up-front amount agreed upon by the parties, which PENNVEST will transfer to the Seller to reserve the Credits for Developer.

Upon entering into a Call Option Contract, the Seller becomes contractually obligated to deliver the Credits at the agreed upon terms if the Developer exercises the option, and PENNVEST will require that Seller not market the Credits to another party until the Call Option Contract expires. The Call Option Contract will have an expiration date, beyond which the Seller is no longer obligated to enter into a Forward Contract and deliver the Credits. The Call Option Contract may be canceled by the Developer prior to the expiration of the Call Option Contract only if the planning module is not approved or the Developer otherwise elects not to purchase the Credits. If Developer exercises the option, the parties will enter into a Forward Contract and PENNVEST will become contractually obligated to deliver the Credits in the event of a Seller non-performance.

The Option Premium paid for the call option will not be applied to the later purchase of Credits, if any. Rather, the Option Premium is consideration for the option and the Credit purchase price is consideration for the Credits.

The process used by Developer to obtain planning approval is described in the *Implementation Plan for Sewage Facilities Planning*, which can be found at <http://www.dep.state.pa.us>, search keyword "Chesapeake Bay".

Upon execution of a call option, a Forward Contract will be executed by the parties. The Forward Contract will be provided by the Developer when submitting documentation for the NPDES application process. The process used by Developer to obtain NPDES permit approval is described in the *Implementation Plan for NPDES Permitting*, which can be found at <http://www.dep.state.pa.us>, search keyword "Chesapeake Bay".

4.5.3 Schedule of Market Events

Call Option Contract transactions may be processed on a case-by-case basis as interest arises.

4.5.4 Eligibility Requirements to Execute Call Option Contracts

Buyers and Sellers must satisfy eligibility requirements to participate in Call Option and Forward Contracts. These requirements are outlined in Chapters 7 and 8.

4.5.5 Call Option Contracts Provisions

Call Option Contracts will include conditions and clauses that address, among other things, timing of performance, event of default, force majeure provisions and regulatory changes. These are addressed in Chapter 10.

Summary Table of PENNVEST Market Events

	<u>Forward Contracts</u>	<u>Spot Contracts</u>	<u>Bilateral Negotiated Contracts</u>	<u>Call Option Contracts</u>
Objective	Designed to allow Regulated Point Sources to satisfy short and long-term compliance needs	Designed to allow Regulated Point Sources and uncontracted verified Credits owners the ability to buy/sell to comply	Designed to allow Regulated Point Sources to purchase Credits from identified projects (e.g., geographically local projects)	Designed to provide Developers with a process to reserve a call option to buy Credits through the "letter-of-intent"
Type of Contract	Forward	Spot	Forward	Call Option
Determination of Price, Quantity, and Premium	Determined through competitive auction	Determined through competitive auction	Bilaterally negotiated	Strike price and Option Premium set by negotiation; Developers can choose from price-premium combinations
Schedule of Market Events	Specified schedule based on interest (e.g., quarterly)	Annually near/at end of Compliance Year	As requested on case-by-case basis	As requested on case-by-case basis
Delivery Schedule	Delivery for single or strips; duration determined prior to auction	Immediate delivery of Registered Credits	Bilaterally negotiated, subject to restrictions PENNVEST may impose	If option exercised, delivery for strip of Credits for length of permit
Sell-side requirements				
Legal title to Credits	Yes	Yes	Yes	Yes
Type of Credit	Certified	Verified	Certified	Certified
Evidence of long-term Credit or project durability	Yes	No	Yes	Yes

	Evidence of intent-to-implement	Yes, for "planned" or "contingent-on-sale"	No	Yes, for "planned" or "contingent-on-sale"	Yes, for "planned" or "contingent-on-sale"
Buy-side eligibility requirements	Financial guarantee	Funds posted in full	Financial guarantee	Financial guarantee	Financial guarantee; evidence of sound land-use planning

Chapter 5 – Auction Format and Structure

5.1 Overview

This section addresses the format and procedures to be employed for periodic Spot Contract and Forward Contract Auctions to be conducted by or on behalf of PENNVEST through the PENNVEST Clearinghouse.

5.2 Auction Participation

Auction participants must review the Clearinghouse Rules prior to participating in the Auction. The Clearinghouse Rules may be amended up to 5:00 p.m. on the business day prior to the commencement of an Auction. Any amendments to the Clearinghouse Rules will be posted on the PENNVEST Website. Amendments to the Clearinghouse Rules will be effective at 8:00 a.m. on the first business day following posting on the PENNVEST Website unless otherwise stated in the applicable amendment. Participating in an Auction after the effective date of an amendment to the Clearinghouse Rules constitutes acceptance of the amendment; parties who do not agree to an amendment to the Clearinghouse Rules should immediately cease participation in the Auction. Prior to participation in the Auction, Enrolled Participants will be asked to agree to the Auction Rules, which are the terms and conditions relating specifically to the Auction process. The Auction Rules are contained in Appendix 4.

5.3 Auction Administrator

Auctions will be hosted and administered by an Auction Services Provider designated by PENNVEST.

5.4 Auction Format

PENNVEST anticipates that Auctions will include two rounds of sealed bids and offers, with bids and offers being filled to maximize the settled quantity. A summary of the Auction format for the PENNVEST Clearinghouse Auction is set forth in Appendix 1. PENNVEST retains the discretion to modify the Auction format based upon experience and the feedback of Enrolled Participants.

5.5 Auction Types

Each Auction will involve up to four types of Credits delineated by the Nutrient (nitrogen and phosphorous) or Sediment, and the watershed (Susquehanna or Potomac).

5.6 Forward Contract Length

Standardized contract periods will be employed to allow Enrolled Participants to contract for Credits which would provide for the delivery of Credits for multiple, successive years or a single year period, as applicable. The contract period would be defined by a Compliance Year.

5.7 Voluntary Posting of Credit Demands/Available Credits

In an effort to connect buyers and seller outside the auction platform, PENNVEST, or its auction services provider, may, at its sole discretion, provide an opportunity for potential buyers and sellers to voluntarily list credits they wish to purchase or sell, including applicable quantities and price, on a publically assessable site.

Chapter 6 - Overview of Steps to Participate

6.1 Overview

This section provides an overview of the process that market participants must undertake to enter into a Credit purchase or sales contract with PENNVEST.

6.2 Participation Process

The steps and processes required to utilize PENNVEST Clearinghouse services are outlined sequentially below:

6.2.1 Responsibility of Participants

Participants must review the Clearinghouse Rules and understand the commitments defined by the documents.

6.2.2 Participants Establish Eligibility

Eligibility requirements are outlined in Chapters 7 and 8. All participants must register with the Commonwealth's SAP system and obtain a vendor identification number in order to enroll in the PENNVEST Clearinghouse. A completed and signed copy of the organization's W-9 must be submitted as part of this registration process. The following link provides further registration information:

<https://www.vendorregistration.state.pa.us/cvmu/paper/GranteeRegistration.aspx>

After registering with the Commonwealth's SAP system, participants may register with the Auction Services Provider by clicking on the "Markit Environmental Registry and Auction Services" link found on the PENNVEST Website. Participants will be asked to provide enrollment information, along with additional documentation required or requested by PENNVEST. The enrollment application requires, among other items, the submission of a board resolution authorizing participation in the PENNVEST Clearinghouse, if applicable. A sample board resolution is included as Appendix A3.1.

6.2.3 PENNVEST Confirms Eligibility

Once eligibility is established, PENNVEST will issue the participant an eligibility letter informing the participant that the entity, organization or individual is an Enrolled Participant and is eligible to buy or sell Credits using PENNVEST Clearinghouse services. The letter will stipulate the conditions that may apply to the participant's ability to purchase or sell Credits with PENNVEST. These eligibility conditions may be modified on

an ongoing basis and multiple Eligibility Letters may be issued to an entity, organization or individual.

6.2.4 Utilization of PENNVEST Services

Enrolled Participants will utilize PENNVEST Clearinghouse services through the procedures described below:

6.2.4.1 Forward or Spot Contract Auctions

PENNVEST will provide copies of the Enrolled Participant's eligibility letter to the Auction Services Provider to confirm the Enrolled Participant's eligibility to participate in the Auction. Participants in Forward Contract Auctions or Spot Contract Auctions must submit an Auction bid form or Auction offer form containing information of the prices and Credit quantities that the Enrolled Participant is willing to bid or offer to the Auction Services Provider through the Markit Environmental Registry Service. All bid and offer submissions constitute legally binding bids or offers. *6.2.4.2 Bilaterally Negotiated Contracts*

Participants using PENNVEST Clearinghouse services must submit to PENNVEST an executed Clearinghouse services form signed by both parties of the transaction. A sample form is contained as Appendix A3.2.

6.2.4.3 Call Option Contracts

Participants who wish to enter into a Letter of Intent and Call Option Contract must submit to PENNVEST a New Growth and Option Pool Form. A sample of the form is contained as Appendix A3.3.

6.2.5 Auction Results

At the conclusion of the market event, all participants will receive an email notifying them that the results of the auction have been posted in their respective accounts with the Auction Services Provider.

6.2.6 Parties' Contractual Obligations

After a contract is executed, PENNVEST and its contracted counterparties will follow the delivery and payment procedures required to fulfill their respective contractual commitments. These procedures are outlined in Chapter 9.

Chapter 7 - Buy-Side Eligibility Requirements

7.1 Overview

This section establishes requirements that must be met by entities that wish to buy Credits through the PENNVEST Clearinghouse. Buyers must establish financial eligibility and ability to fulfill future payment commitments to be accepted as an Enrolled Participant for any Auction. Notwithstanding the aforementioned eligibility requirements, any Buyer that provides an up-front payment equal to the cost of the Credit purchase for the future delivery of Credits shall be eligible to participate in the Auction.

7.2 Buy-side Financial Requirements for Municipalities and Municipal Authorities

Municipalities or municipal authorities can establish eligibility to purchase Credits by pledging revenues of the municipality satisfactory to PENNVEST, providing an up-front payment equal to the full payment amount for the future delivery of Credits, some combination of both, or other such collateral as may be accepted by PENNVEST. For the purchase of Credits under a Spot Contract, the municipality or municipal authority shall provide an up-front payment equal to the full payment amount for the Credits at the price that they are willing to pay. In the event a municipality or municipal authority is unable to satisfy one of these options, PENNVEST may consider the additional options outlined in Section 7.3.

7.3 Buy-side Financial Requirements for Developers and Private Entities

Developers as well as other private entities can provide one or more of the following to establish eligibility to purchase Credits under a Call Option Contract, Forward Contract or Spot Contract:

- A letter of credit for the full amount of the Credit purchase obligation,
- Bonding for the full amount of the Credit purchase obligation,
- A debt service reserve fund or escrow account in an amount equal to the full amount of the Credit purchase obligation, which will be used to pay for the Credits over time, or such lower amount as may be acceptable to PENNVEST, or
- A combination of the above, for example, a letter of credit for half of the Credits purchase obligation and a debt service reserve fund for the balance.

7.4 PENNVEST Credit Analysis

In determining eligibility, PENNVEST may conduct a credit evaluation of all Buyers. PENNVEST may request the following information to evaluate Buyers' credit-worthiness:

- The last three years of Buyer's audited financial statements, or for individuals, their latest filed tax return,
- Identification of the proposed source of funds for the purchase of Credits, and an income and expense statement for the source of funds, including billing information, historical income statement (last audited year) and projected income statement, as may be applicable,
- Proposed collateral security for payment of the purchase of the Credits, and
- Any additional information necessary for PENNVEST to consider or evaluate the value of the proposed collateral, including but not limited to, evidence of ownership and appraisals of real estate.

7.5 Supporting Documents Required

7.5.1 Enrollment Application

Buyer must submit to PENNVEST a signed Enrollment Application. This Enrollment Application will require the Buyer to acknowledge its understanding and acceptance of the terms and conditions contained in the Clearinghouse Rules.

As part of the Enrollment Application, Buyer will be asked to submit the following, among other supporting documents:

7.5.1.1 Buyer's Legal Status

Buyer must provide documents that demonstrate the legal structure of the entity. Examples of documents that PENNVEST may require include:

- Articles of incorporation or formation
- Certificate of limited partnership
- Bylaws
- Partnership agreement

- Operating agreement
- Driver's license (for individuals)

PENNVEST retains the discretion to consider other evidence as acceptable for demonstrating the legal status of an entity.

7.5.1.2 Authorization to Enter the Transaction

Buyer must provide evidence of corporate authorization or authority to enter into the transaction. Such evidence may include:

- o a board resolution, or equivalent document,
- o a joint letter on behalf of all partners asserting that the person signing the application on behalf of the entity has the requisite legal authority to do so.

PENNVEST retains the discretion to consider other equivalent documents, and in the case of an individual the executed application itself as evidence of authority. A sample Board Resolution is included as Appendix A3.1.

Chapter 8 - Sell-Side Eligibility Requirements

8.1 Overview

This section establishes requirements that must be met by entities that wish to sell Credits through the PENNVEST Clearinghouse. As part of the establishing financial eligibility and submitting the enrollment application, Sellers must provide evidence that the Credits they contract to sell will be generated and are certified.

8.2 Financial Eligibility Requirements for Forward Contracting through PENNVEST

The financial requirements for Sellers entering into contracts through the PENNVEST Clearinghouse are established to provide assurance that Sellers can meet their contractual commitments and to assure that PENNVEST will be fully compensated if it incurs any additional costs in replacing Credits not delivered by a Seller due to an uncured event of default, as more fully discussed in Chapter 10.

Prior to determining the Seller's eligibility, PENNVEST will evaluate evidence of the Seller's financial capacity on a case-by-case basis. All Sellers must provide PENNVEST with procedures by which they intend to provide replacement Credits to PENNVEST in the event of a default. PENNVEST retains the discretion to consider alternatives to secure performance from Sellers that are capable of providing replacement Credits, including but not limited to letters of credit, performance bonds and insurance, should such options be reasonably available to sellers.

8.3 Evidence that Credits will be Registered

8.3.1 Evidence of DEP Certification

Sellers are eligible to enter into contracts only for Certified Credits that have not been contractually committed to be sold to another party. Sellers must provide PENNVEST with a copy of their DEP certification letter at the time of enrollment.

Credits must be certified by DEP for at least as many Compliance Years as the Seller desires to enter into the Forward Contract with PENNVEST.

8.3.2 Evidence of Legal Ownership of Credits

PENNVEST will require that Sellers demonstrate sufficient evidence of title to the Credits, including if applicable, legal signatures of the aggregator and farmers or land owners from which the Credits may be generated. Such evidence may include an agreement for the manure source that is used to generate the Credits, an agreement with a landowner providing that Credits may be generated on the leased land, or other type of documentation that shows that the reductions are owned by either the Aggregator or the farmer seeking to sell the Credits to PENNVEST.

In the case of Aggregators, PENNVEST will enter into contracts with Aggregators that either a) represent farmers that retain the legal title of the credits, with the Aggregators acting as a representative agent in the transaction, or b) obtain the legal title and ownership from the farmer. In either case, the Aggregator is entering into the contract with PENNVEST and the Aggregator assumes all of the contractual obligations associated with contract performance that the Rulebook or the applicable contract requires.

PENNVEST will require that Aggregators have agreements in place with farmers for a period equal to or longer than the period covered by the Forward Contract with PENNVEST. Such agreements could, for example, take the form of an “acknowledgment”, which is a document that the landowner would sign, which acknowledges the installation of the pollutant reduction activity that may generate Credits and agrees not to interfere with the sale of such Credits for a stated period of time. For farmers that lease land from others, the agreement giving the farmer credit ownership rights must be for at least as many years as the Forward Contract with PENNVEST. For Credits involving manure hauling, PENNVEST may also require that poultry farmers have contracts with their poultry processor for at least as many years as their contract with their manure broker.

8.3.3 Evidence of a Verification Plan

During enrollment, Seller must provide a copy of the verification plan approved by DEP as part of DEP’s certification process. PENNVEST will review the verification plan to assure that funds and personnel are available to support verification.

8.3.4 Evidence of Project Implementation

PENNVEST will require a business plan and implementation schedule to the satisfaction of PENNVEST which identifies the major milestones required for Credit generation of Certified Credits. The implementation schedule will be evaluated on a case-by-case

basis. PENNVEST will retain the discretion to obtain additional evidence for projects that require significant capital investment and relatively long lead-times for implementation.

8.4 Supporting Documents Required from Seller

8.4.1 PENNVEST Enrollment Letter

Seller must submit to PENNVEST a signed Enrollment Application. This Enrollment Application will require the Seller to acknowledge its understanding and acceptance of the terms and conditions contained in this Rulebook.

As part of the Enrollment Application, Buyer will be asked to submit the following, among other supporting documents:

8.4.1.1 Sellers' Legal Status

Sellers must provide documents that demonstrate the legal status of the entity. Examples of documents may include:

- Articles of incorporation or formation
- Certificate of limited partnership
- Bylaws
- Partnership agreement
- Operating agreement
- Drivers license (for individuals)

PENNVEST retains the discretion to consider other evidence as acceptable for demonstrating the legal status of an entity.

8.4.1.2 Authorization to Enter into the Transaction

Seller must provide evidence of corporate authorization or authority to enter into the transaction.

Such evidence may include:

- o a board resolution, or equivalent document,

- o a joint letter on behalf of all partners asserting that the person signing the application or contract on behalf of the entity has the legal authority to do so.

PENNVEST retains the discretion to consider other equivalent documents and in the case of an individual the executed application itself as evidence of authority. A sample Board Resolution is included as Appendix A3.1.

8.4.1.3 Agreements and Contracts between Aggregators and Farmers

Seller must provide to PENNVEST a copy of any agreement or contract which evidences Seller's interest in the Credits for the entire term Credits will be offered. The financial terms of the contract between aggregators and farmers may be redacted or kept confidential from PENNVEST.

8.4.1.4 Remedies for Default

Sellers must provide PENNVEST with a description of the Seller's proposed process for making PENNVEST whole in the event of default on the part of the Seller.

Chapter 9 – Payment and Credit Transfer Procedures

9.1 Overview

This section describes the process by which the legal title of Credits will transfer from Sellers to PENNVEST, and from PENNVEST to Buyers. It also describes the process by which payments will be transferred from Buyers to PENNVEST and from PENNVEST to Sellers.

9.2 Transfer and Payment Procedures for Sellers

9.2.1 Transfer of Credits from Seller to PENNVEST

Seller shall notify DEP that the Credits are to be transferred to PENNVEST when registered. If DEP registers the Credits, DEP will issue a letter to PENNVEST providing the registration numbers of the Registered Credits, and will provide a copy to Seller.

9.2.2 Transfer of Payment from PENNVEST to Seller

Sellers will receive payment for Credits transferred to PENNVEST in accordance with the delivery schedule set forth on Exhibit A to the Nutrient Credit Purchase Agreement executed by Sellers and PENNVEST. Payments to Seller will correspond to the contracted per-unit price and the actual delivered quantity of Credits.

9.3 Transfer and Payment Procedures for Buyers

9.3.1 Transfer of Credits from PENNVEST to Buyer

PENNVEST will report Registered Credit registration numbers to Buyer upon receipt from DEP. Buyers will include the registration numbers of Credits used for compliance in their supplemental discharge monitoring report to DEP.

PENNVEST may be in a position to deliver Credits through Forward Contracts through multiple Sellers. Unless Buyers have identified specific Credits (i.e., through Bilaterally Negotiated Contracts or Call Option Contracts), the Buyers will be allocated a pro-rata share, reflecting each Buyer's relative share of total buy-side quantity, of Registered Credits from PENNVEST. For example, suppose PENNVEST enters into a Forward Contract with three Buyers for a total of 1,000 Nitrogen Credits. Buyer A has contracted to purchase 500 Nitrogen Credits (50% of the total), Buyer B has contracted to purchase 300 Nitrogen Credits (30% of the total) and Buyer C has contracted to purchase 200 Nitrogen Credits (20% of the total). If PENNVEST obtains 100 Nitrogen Credits from a

Seller, PENNVEST will issue 50 Nitrogen Credits to Buyer A, 30 Nitrogen Credits to Buyer B and 20 Nitrogen Credits to Buyer C.

9.3.2 Transfer of Payment from Buyer to PENNVEST

Buyers will make payments for Credits received from PENNVEST in accordance with the payment schedule set forth on Exhibit A to the Nutrient Credit Purchase Agreement executed by Buyers and PENNVEST. Payments by Buyers to PENNVEST will correspond to the contracted per-unit price and the actual quantity of Credits delivered to Buyer.

Successful buyers in the auction must submit payment in the form of checks (made payable to the “Commonwealth of Pennsylvania”) to the following address:

PENNVEST Nutrient Credit Clearinghouse
Office of Comptroller Operations
Special Accounting Division
P.O. Box 2739
Harrisburg, PA 17105
Attn: Jeff Kreider

9.3.3 Spot Contract Auction Payments from Buyer to PENNVEST

Prior to the date of a Spot Contact Auction, prospective Buyer participants will be required to deposit with PENNVEST an amount of funds sufficient to cover their anticipated purchase in the Spot Contact Auction. In the event that a Buyer is unsuccessful in the Spot Contact Auction, those funds must be returned by PENNVEST. Payment should be submitted to the address set forth above in Section 9.3.2. PENNVEST will advise Buyers the date by which payment must be received prior to participation in the auction.

Chapter 10 – Buyer or Seller Non-performance; Assignment; Program Changes

This chapter addresses, among other things, actions to be taken in the event of Buyer or Seller non-performance or regulatory actions that may affect the ability of Regulated Point Sources to use Credits to comply with their NPDES permit effluent limits. It also addresses the ability to assign contracts entered into with PENNVEST under this Rulebook and the ramifications of program termination.

10.1 Buyer or Seller Non-performance

10.1.1 Anticipated Non-performance; Notification to PENNVEST

Buyer or Seller shall immediately notify PENNVEST in writing of any potential nonperformance under any contract for the purchase or sale of Credits.

If Seller anticipates it will not be able to deliver the appropriate quantity of Credits in accordance with a contract for the sale of Credits, Seller shall immediately notify PENNVEST of the quantity of Credits Seller anticipates will not be delivered, and shall identify the procedures Seller is undertaking to procure replacement Credits. Aggregators representing individual project owners are expected to monitor the activity of project owners to ensure that they are in conformity with Credit certification requirements and that the appropriate quantity of Credits will be delivered under the terms and condition of any contract for the sale of Credits.

10.1.2 Force Majeure Provisions

Buyer or Seller shall be in default of a contract with PENNVEST for the purchase or sale of Credits if either party fails to satisfy the terms and conditions of such contract, except when such failure to perform is caused by conditions beyond the reasonable control of that party, including, but not limited to, Acts of God, natural disasters, epidemics (e.g. Avian Influenza) wars, riots or other major upheavals. A determination as to whether an event is beyond the reasonable control of Buyer or Seller will be made by PENNVEST in its sole discretion on a case-by-case basis. This paragraph has no impact upon the Regulated Point Source's responsibility to comply with the effluent limitations, conditions and stipulations in its NPDES permit.

10.1.3 Buyer Non-compliance Under NPDES Permit as a Result of Seller Non-performance

A Buyer relying on Credits to demonstrate compliance with effluent limitations under an NPDES permit must attain and maintain compliance with the effluent limitations, conditions and stipulations in the NPDES permit. If a situation arises in which PENNVEST is unable to produce the number of Credits contractually agreed upon, causing Buyer to fail to satisfy the terms of its NPDES permit, this failure will be treated by DEP in the same manner as other actions and events that can directly affect the nutrient discharge performance of the permittees' facility. The permittee should familiarize itself with the permittee responsibility provisions in DEP's Nutrient Trading regulation when adopted.

10.1.4 Default

A Buyer that fails to comply with the terms and conditions of a contract for the sale of Credits shall be liable to PENNVEST for the full amount of the contract, plus any additional costs incurred by PENNVEST to secure payment in full. A Seller that fails to comply with the terms and conditions of a contract for the sale of Credits shall be liable to PENNVEST for any additional costs incurred by PENNVEST to obtain replacement credits. PENNVEST, DEP or any other applicable Commonwealth agency reserves the right to implement enforcement actions or penalties against any Buyer or Seller in default of its contract to purchase or sell Credits, including the option to disqualify Buyer or Seller from using PENNVEST Clearinghouse services in the future.

10.1.5 Anti-collusion

Any violation of applicable Pennsylvania law, federal law or commercial code explicitly prohibiting collusion by Buyers or Sellers will be a specific event of default under any contract for the purchase or sale of Credits and will be specifically enforced.

10.2 Procedures for Acquiring Replacement Credits

In the event of Seller non-performance, for whatever reason, PENNVEST will take the following steps to attempt to acquire replacement Credits, in the following order of priority, to the extent practicable:

10.2.1 Seller Replacement

PENNVEST will allow the non-performing Seller to provide replacement Credits, either through other Credit-generating projects or through purchase or acquisition of Credits. Should the Seller fail to do so in the current Compliance Year, in the subsequent Compliance Year the Seller will owe PENNVEST the amount of Credits that it failed to provide at a ten (10) percent discount from the price established for the Credits that it failed to provide.

10.2.2 Credits Owned by PENNVEST

PENNVEST may use Credits it currently owns.

10.2.3 DEP Reserve Pool

DEP may transfer Credits to PENNVEST from the DEP reserve pool upon the request of PENNVEST.

10.2.4 Procure Credits from Other Sellers

In some situations, PENNVEST may secure replacement Credits. PENNVEST will notify all other Enrolled Participants of the quantity and price of Credits PENNVEST is seeking to purchase. Sellers will have a specified timeframe during which they may inform PENNVEST that they are willing to sell replacement Credits and may submit offers either at or below the price announced by PENNVEST. At the end of a specified timeframe, PENNVEST will buy the Credits from the Seller with the lowest offer price. In the event of a tie, PENNVEST will purchase the Credits from the Seller that submitted the earliest offer to sell.

10.2.5 Option Pool

PENNVEST may exercise options available under the Option Pool.

10.2.6 Bilateral Negotiation

PENNVEST may seek to buy Credits from suppliers at a greater price than initially contracted and may contract with Sellers bilaterally and negotiate Credit prices and quantities with them to accomplish the same.

10.3 Assignment of Contractual Obligations

Neither Buyer or Seller shall be permitted to assign its rights or obligations under a contract for the purchase or sale of Credits without the prior written consent of PENNVEST. In the event Buyer or Seller attempts to assign its rights or obligations under a contract for the purchase or sale of Credits with the prior written consent of PENNVEST, Buyer or Seller, as may be applicable, shall remain obligated to PENNVEST to perform under the contract.

10.4 Program Termination or Regulatory Change

PENNVEST reserves the discretion to terminate any contract for the sale or purchase of Credits if Credits certified by DEP become invalid due to changes in the NPDES permitting process or as a result of actions by DEP, the United States Environmental Protection Agency, a judicial order, or any other regulatory body or ruling. Such actions may include, but are not limited to:

- overturning the entire credit system strategy,
- superseding the strategy with an alternate regulatory program, or
- not allowing Regulated Point Sources to purchase Credits as a method of complying with the strategy.

Appendix 1 – Auction Term Sheet

PENNVEST Auctions

Auction clearinghouse role	PENNVEST will serve as central counterparty for all successful Auction participants by serving as the Buyer to every Seller and the Seller to every Buyer. For Auctions of Credits, each successful bid and offer will result in establishment of a contract with PENNVEST. Each successful Seller will commit to deliver the specified Credits to PENNVEST at the prescribed delivery dates and will be paid upon delivery of Registered Credits. Each successful Buyer will commit to pay in full the Auction settlement price and will receive from PENNVEST the quantity of Credits contracted through the Auction at the prescribed payment dates.		
Auction description	Each Auction will serve to match aggregate Credit sales from Sellers who make valid binding offers to sell Credits to aggregate Credit purchases from Buyers who post valid binding bids. Credit transfers and payment will occur at pre-specified future delivery and settlement dates.		
Credits to be auctioned	<p>Each Auction event will include separate individual Auctions for Credits delineated by:</p> <ul style="list-style-type: none"> a. Credit type (nitrogen or phosphorous) b. Watershed (Susquehanna (“SU”) or Potomac (“PO”)) c. Compliance Year that the Credit is eligible OR series of Compliance Years (i.e., a “strip”) for which eligible Credits will be delivered for consecutive years 		
	<p>EXAMPLE</p> <p>Credit type:</p> <p>Compliance Years included in first Auction</p>	<p>Nitrogen (SU PO)</p> <p>Compliance Year 2011 Compliance Year 2012 Compliance Year 2013 Compliance Year 2014 Compliance Year 2015</p>	<p>Phosphorous (SU PO)</p> <p>Compliance Year 2011 Compliance Year 2012 Compliance Year 2013 Compliance Year 2014 Compliance Year 2015</p>
Bids and offers are firm and legally binding	Each bid and offer shall represent a legally binding commitment to accept all Auction outcomes that meet the terms that each Auction participant establishes through their bid and offer prices and quantities.		

Auction style	<p>Separate Auctions will be held for each Credit type as defined by Credit type and watershed. The Compliance Years for the Auction will be announced before each Auction.</p> <p>Unless PENNVEST, with stakeholder input determines otherwise, every Auction will consist of two sealed bid and offer auction rounds. If the bids and offers submitted in Round 1 result in a successful settlement price, Round 1 will result in the transaction of credits. In Auction Round 2, Buyers and Sellers can only bid or offer for the same combination of compliance year/watershed and nutrient type as Round 1. Note, all bids and offers that were not matched in Round 1 will NOT automatically be included in Round 2. Participants will be required to resubmit those bids and offers in Round 2 if they wish to participate in Round 2. If the bids and offers submitted in Round 2 result in a successful settlement price, Round 2 will also result in the transaction of credits.</p> <p>Prior to each Auction PENNVEST may solicit non-binding letters-of-intent from Sellers and Buyer indicating that they will offer Credits, or bid for Credits, in the upcoming Auction. PENNVEST may choose to provide public notice of such intents prior to the Auction.</p>
Auction schedule	Auction schedules will be based on stakeholder interest or on a specified schedule determined by PENNVEST.
Minimum price increments for bids and offers	<p>One cent per Nitrogen Credit</p> <p>One cent per Phosphorous Credit</p>
Minimum quantity increments	None
Partial versus all-or-none bids and offers	<p>A “partial fill” indicates that the bidder is willing to accept an order in an amount less than the desired quantity if PENNVEST can only acquire a portion of the desired quantity of Credits equal to or less than the bid price. An “all or none fill” indicates that the bidder will accept only the full amount of the desired quantity of Credits equal to or less than the bid price. Unless an Auction participant elects in its Auction form to accept only an “all or none” result, all bidders and offerors agree to accept “partial fills” of their successful bid or offer.</p>

	<p>Should an “all or none” bid or offer at a successful price level involve a buy or sell quantity that cannot be fulfilled, that bid or offer will be removed from the Auction, and the auction results will be re-run without the bid or offer.</p> <p>All bids and offers on a Strip Contract must be “all or none”, indicating that all Compliance Years in the strip must be transacted completely for the strip offer or bid to be transacted successfully. If any of the Compliance Years in the strip cannot be fully transacted, then the entire strip bid or offer will be removed from the Auction and the auction results will be re-run without the strip bid or offer.</p>
Strip bids and offers	<p>Strip bids and offers must be submitted with the same nutrient credit type, the same number of credits each year and the same price/credit. For example, the strip bid for SU-N-(12-14) at \$2 for 100, will be bid at \$2 for 100 SU-N-12 credits, at \$2 for 100 SU-N-13 credits and at \$2 for 100 SU-N-14 credits. It should be noted however that the auction settlement price for each of the three years of the strip may be different, but will in no event be more than the amount of a bid price or less than the amount of an offer price.</p>
Multiple bids and offers	<p>A bidder can submit multiple bids for the same (or different) credit types, watershed locations and Compliance Years in the same auction. Each bid submission will be treated as a separate bid.</p> <p>An offeror can submit multiple offers for the same (or different) credit types, watershed locations and Compliance Years in the same auction. Each offer submission will be treated as a separate offer.</p> <p>If a strip bid or offer is submitted and a single-year bids or offers are submitted, they will counted as separate and independent bids/offers from the same account.</p> <p>An auction participant may not submit a bid and an offer in the same auction for the same credit type, watershed location and Compliance Year. If the auction participant submits a bid and an offer for the same credit type, watershed location and Compliance Year, both the bid and offer will be rejected and not submitted for the auction run. An auction</p>

	<p>participant can submit both a bid and an offer in the same auction if one of the credit type, watershed location or Compliance Year is different.</p>
<p>Maximum traded quantity per auction</p>	<p>The underlying principle of the auction methodology is to maximize the final traded quantity for each credit type and this drives the auction runs and the winner determination process explained below.</p>
<p>Determining winners and tie-breaking</p>	<p>1) First the auction platform will determine the maximum possible cumulative traded quantity for the submitted bids and offers. This is done to ensure that the final auction fill is maximized. The following underlying restriction applies:</p> <p>The bids and offers picked should either cross or touch (which means that bid is more than or equal to the offer).</p> <p>2) Once the maximum possible traded quantity has been determined (using the largest matching sets of bids and offers and the crossed market logic), it is required to determine the fills of the actual bids and offers. In case where there are multiple combinations of bids (or offers) possible that will result in a maximum fill in the auction and not all of them can be used to match the corresponding offers (or bids), priorities are assigned to break ties using the following criteria:</p> <ul style="list-style-type: none"> a. Price (higher priced bid or lower priced offer gets higher priority), b. Size (Higher quantity gets higher priority) c. Type (all-or-none receives higher priority than partial bids/offers), d. Time of submission (earlier submissions get higher priority). <p>These bids and offers will then be matched starting with the higher priority submissions to determine fills.</p> <p>If two or more bids or offers have the same Price , Quantity, Type “Partial” and the same submission time and all of them cannot be fully accommodated in the auction, the Auction platform will try to fill pro rata based on size. This is achieved by taking the weighted average of the</p>

	quantity put up to be bought by the bidders and the weighted average of the quantity put up to be sold by the offerors in determining the fill of each bidder and offeror.
Auction settlement price	<p>Once the successful bids and offers and their respective fills are determined as explained above, the auction settlement price for each Credit type is calculated. It is the weighted average, rounded to the nearest whole cent, between the lowest bid and highest offer prices that either cross or touch in the auction that are successful, with weights of these two last match prices equal to the corresponding bid and offer quantities of the last successful bids and offers.</p> <p>When the dollar limit for a bidder or offeror is exceeded, the number of credits won for that particular buyer or seller will be reduced and the auction methodology will be re-run taking into account the new set of credits won to calculate the new final price. The auction methodology will not be re-run unless the new auction settlement price causes another account to exceed its respective dollar limit.</p>
Pre-qualified dollar amount per bidder	If after the determination of the filled quantity per successful bidder and the auction settlement price, it is observed that one or more bidders have exceeded the pre-qualified dollar amount for their accounts, the auction will be run again after reducing the quantity of filled credits across credit types for those accounts in proportion to the original submitted quantities. (The pre-qualified dollar amount per bidder is made available prior to the auction run.)
Total amount due to Pennvest (For Bidder)	Total quantity won * (Auction Settlement Price + Transaction fee per credit)
Credit acronyms	<p>For convenience of record keeping and Auction administration, Credits by Compliance Year, Credit type and basin shall be referenced using the following convention:</p> <p>SU-N-11 represents Susquehanna River basin nitrogen Credits for Compliance Year 2011.</p> <p>PO-P-12 represents Potomac River basin phosphorus Credits for Compliance Year 2012.</p>

	<p>Strips will be identified as a strip by the year range, using the following convention:</p> <p>SU-N-(11-13) represents Susquehanna River basin nitrogen Credits for Compliance Years 2011, 2012 and 2013.</p>
Announcement of results	<p>Subsequent to each Auction round, PENNVEST or the Auction Services Provider will publicly report Auction results, including the market clearing price and quantity, as well as the names of successful parties and the applicable quantities bought or sold. If there are five or more buyers and five or more sellers participating in an Auction, PENNVEST will also report the names of all participants, regardless of whether they are successful in the auction, the range of bid and offer prices for each round of the Auction and the specific quantities bid and offered in each round.</p>

Appendix 2A – Auction Participation Examples (Multiple Rounds)

The following examples aim to elaborate the rules of participation in a two round Auction as described in Appendix 1 – Auction Term Sheet. All examples involve a buyer, but would apply similarly to sellers. Any buyer or seller who participates in Round 1 of the Auction is not required to participate in Round 2.

Example 1:

- Buyer participated in Forward Auction Round 1.
- Buyer submitted a **2013 PARTIAL Potomac Phosphorus** bid.
- This buyer can participate in Forward Auction Round 2, submitting any combination of the following bids:
 - **2013 PARTIAL Potomac Phosphorus** bid
 - **2013 All/NONE Potomac Phosphorus** bid
- This buyer will not be allowed to submit any strips, including strips for water years: 2012-2014, 2013-2015.
- This buyer will be allowed to change the quantity and price for their bid.

Example 2:

- Buyer participated in Forward Auction Round 1.
- Buyer submitted a **2013 ALL/NONE Potomac Phosphorus** bid.
- This buyer can participate in Forward Auction Round 2, submitting any combination of the following bids:
 - **2013 PARTIAL Potomac Phosphorus** bid
 - **2013 All/NONE Potomac Phosphorus** bid
- This buyer will not be allowed to submit any strips, including strips for water years: 2012-2014, 2013-2015.
- This buyer will be allowed to change the quantity and price for their bid.

Example 3:

- Buyer participated in Forward Auction Round 1.
- Buyer submitted a **3-year strip for 2013-2015 Potomac Phosphorus**.
- This buyer can participate in Forward Auction Round 2, submitting any combination of the following products:

- **3-year strip for 2013-2015 Potomac Phosphorus**
 - **2013 PARTIAL or ALL/NONE Potomac Phosphorus bid**
 - **2014 PARTIAL or ALL/NONE Potomac Phosphorus bid**
 - **2015 PARTIAL or ALL/NONE Potomac Phosphorus bid**
- This buyer will not be allowed to submit any single year bids or strips for any other water year/watershed/nutrient type combinations.
 - This buyer will be allowed to change the quantity and price for each of their bids.

Example 4:

- Buyer participated in Forward Auction Round 1.
- Buyer submitted a **3-year strip for 2013-2015 Potomac Phosphorus** and a **2014 PARTIAL Susquehanna Nitrogen** bid.
- This buyer can participate in Forward Auction Round 2, submitting any combination of the following products:
 - **3-year strip for 2013-2015 Potomac Phosphorus**
 - **2013 PARTIAL or ALL/NONE Potomac Phosphorus bid**
 - **2014 PARTIAL or ALL/NONE Potomac Phosphorus bid**
 - **2015 PARTIAL or ALL/NONE Potomac Phosphorus bid**
 - **2014 PARTIAL Susquehanna Nitrogen**
 - **2014 ALL/NONE Susquehanna Nitrogen**
- This buyer will not be allowed to submit any single year bids or strips for any other water year/watershed/nutrient type combinations.
- This buyer will be allowed to change the quantity and price for each of their bids.

Example 5:

- Buyer didn't participate in Forward Auction Round 1.
- This buyer cannot participate in Forward Auction Round 2.

Appendix 2B – Auction Participation Examples (Auction Methodology)

The following examples aim to elaborate the rules of the auction methodology as described in Appendix 1 – Auction Term Sheet. The same auction methodology applies for both Auction rounds. It is assumed that the submitted bids and offers are for Nitrogen Credits in the Susquehanna River basin for the 2011 compliance year.

Example 1:

Suppose that the following bids and offers are submitted: (Note that they are arranged in the descending order of prices (for bids) and ascending order of prices (for offers)).

Demand for Credits				Supply of Credits					
Acc #	Price (per lb)	Bid Quantity	"All or None" or "Partial"		Offer #	Price (per lb)	Offer Quantity	"All or None" or "Partial"	
AB1	\$6.00	10,000	All/None		AO1	\$3.00	25,000	partial	
AB2	\$6.00	25,000	All/None		AO2	\$4.00	20,000	partial	
AB3	\$5.00	20,000	All/None		AO3	\$5.00	20,000	partial	
					AO4	\$7.00	20,000	partial	

Auction Run: The total Bid quantity from AB1, AB2 and AB3 is \$55,000 and each bid is of type all/none.

The total cumulative offer quantity of the top 3 offers AO1, AO2 and AO3 is \$65,000 and they can be used to fill all the bids.

Note that AO4 will not be used because its offer price (\$7.00) is more than the highest bid (\$6.00).

Results: AO1 will have a fill of 25,000 credits. AO2 will have a fill of 20,000 credits.

However, only 10,000 of the credits from AO3 will be used (it has lower priority than AO2 and AO1 because lower priced offers get higher priority)

The Auction Settlement price using lowest bid and highest offer will be \$5.00

Example 2: Suppose that the following bids and offers are submitted:

Demand for Credits				Supply of Credits					
Acc #	Price (per lb)	Bid Quantity	"All or None" or "Partial"		Offer #	Price (per lb)	Offer Quantity	"All or None" or "Partial"	
AB1	7	10000	PARTIAL		AO1	5	9500	ALL/NONE	
AB2	6	9000	PARTIAL		AO2	6	10000	PARTIAL	
AB3	5	10000	ALL/NONE		AO3	7	10000	PARTIAL	

Auction Run: In order to maximize the traded quantity (filled bids and offers), the platform creates sets of all individual and cumulative bids and offers. For example, for the bids the following sets are created: 29000(AB1 + AB2 + AB3), 20,000(AB1+AB3) 19000 (AB1+AB2), 19000(AB2+AB3), 10000 (AB1), 10000(AB3), 10000(AB1), 9000(AB2).

Similarly on the offer side, the sets created will be 29500(AO1+AO2+AO3) to 9500(AO1)

The auction will then try to match the biggest set of bids to the biggest set of offers with the restriction that these sets will only contain bids and offers that cross or touch (i.e. the price of the lowest bid should be greater than the price of the highest offer)

The biggest set for bids (using AB1, AB2, and AB3) is 29,000 and for offers (using AO1, AO2, and AO3) 29,500.

However since AB3's bid price is lower than AO3's offer (crossing markets logic), this combination cannot be used. We then look for the next biggest set which will maximize the fill. Note that for partial bids/offers, the fill doesn't have to be 100 percent. Therefore a portion of those bids/offers can be used to maximize the overall fill of the auction while creating the sets.

Results: In the end, the combination of AB1+AB2 will be matched against the offers submitted by AO1+AO2 to result in the following fills.

AB1 (highest priority Bid) gets fully filled for 10,000 credits. AO1 (highest priority Offer) gets fully filled for 9,500 credits. AB2 also gets fully filled for 9000 credits. AO2 gets partially filled for 9,500 credits.

Example 3: Suppose that the following bids and offers are submitted:

Demand for Credits				Supply of Credits					
Acc #	Price (per lb)	Bid Quantity	"All or None" or "Partial"		Offer #	Price (per lb)	Offer Quantity	"All or None" or "Partial"	
AB1	10.00	6000	Partial		AO1	5.00	6000	Partial	
AB2	9.00	11000	All/None		AO2	6.00	10000	All/None	
AB3	8.00	5000	All/None		AO3	7.00	5000	All/None	
AB4	8.00	5000	All/None		AO4	8.00	11000	All/None	

Auction Run: In order to maximize the traded quantity (filled bids and offers), the platform creates sets of all individual and cumulative bids and offers.

In the above example, the maximum cumulative bid quantity (using all bids) is 27,000 and the maximum cumulative offer quantity (using all offers) is 32,000.

The auction will then try to match the biggest set of bids to the biggest set of offers with the restriction that these sets will only contain bids and offers that cross or touch (i.e. the price of the lowest bid should be greater than the price of the highest offer)

Results: The largest traded quantity (27,000) is achieved if AB1, AB2, AB3, AB4 are matched with AO1, AO2, A04. This will result in a final price of \$8.

Example 4: Suppose that the following bids and offers are submitted:

Demand for Credits				Supply of Credits					
Acc #	Price (per lb)	Bid Quantity	"All or None" or "Partial"		Offer #	Price (per lb)	Offer Quantity	"All or None" or "Partial"	
AB1	7.00	15000	Partial		AO1	3.00	5000	Partial	
AB2	6.00	4000	Partial		AO2	4.00	10000	All/None	
AB3	5.00	4000	Partial		AO3	5.00	10000	All/None	

Auction Run: In order to maximize the traded quantity (filled bids and offers), the platform creates sets of all individual and cumulative bids and offers.

In the above example, the maximum cumulative bid quantity (using all bids) is 23,000 and the maximum cumulative offer quantity (using all offers) is 25,000.

The auction will then try to match the biggest set of bids to the biggest set of offers with the restriction that these sets will only contain bids and offers that cross or touch (i.e. the price of the lowest bid should be greater than the price of the highest offer).

Results: AO1 will have a fill of only 3,000 credits. AO2 and AO3 will have a fill of 10,000 credits each. All bids will be fully filled.

The Auction Settlement price using lowest bid and highest offer will be \$5.00.

Example 5:

Suppose that the following bids and offers are submitted:

Demand for Credits				Supply of Credits					
Acc #	Price (per lb)	Bid Quantity	"All or None" or "Partial"		Offer #	Price (per lb)	Offer Quantity	"All or None" or "Partial"	
AB1	9	9000	A/N		AO1	6	10000	A/N	
AB2	8	5000	A/N		AO2	7	5000	A/N	
AB3	8	5000	A/N		AO3	8	9000	A/N	

Auction Run: In order to maximize the traded quantity (filled bids and offers), the platform creates sets of all individual and cumulative bids and offers.

The maximum cumulative bid quantity (using all bids) is 19,000. The maximum cumulative offer quantity (using all offers) is 24,000. The next biggest set of offers is 19,000 (using AO1 and AO3)

The auction will then try to match the biggest set of bids to the biggest set of offers with the restriction that these sets will only contain bids and offers that cross or touch (i.e. the price of the lowest bid should be greater than the price of the highest offer)

Results: The largest traded quantity (19,000) is achieved if AB1, AB2 and AB3 are used to fill AO1 and AO3. This will result in a final price of \$8.

Example 6:

Suppose that the following bids and offers are submitted:

Demand for Credits					Supply of Credits				
Acc #	Price (per lb)	Bid Quantity	"All or None" or "Partial"	Pre Qualified Dollar amount	Offer #	Price (per lb)	Offer Quantity	"All or None" or "Partial"	
AB1	\$6.00	10,000	Partial	\$50,000	AO1	\$3.00	25,000	partial	
AB2	\$6.00	25,000	All/None	\$100,000	AO2	\$4.00	20,000	partial	
AB3	\$5.00	20,000	All/None	\$100,000	AO3	\$5.00	20,000	partial	
					AO4	\$7.00	20,000	partial	

Note that for the bidders there is an additional column for pre-qualified Dollar amount. Also let's assume that there is a fixed transaction fee of 2.5 cents per filled credit.

Auction Run: When the auction is run the final price comes out to be \$5. AB1, AB2 and AB3 are completely filled. (AO1, AO2 are completely filled and AO3 gets a fill of 10,000)

For AB1, the total amount due to Pennvest will be $10,000 * (5 + 0.25) = 50025$. Since this exceeds the cap for AB1 (50,000), the number of credits for AB1 will be reduced appropriately and the auction will be re-run.

The new credits of AB1 will be reduced by $(50025 - 50000) / 5.025$ (rounded up to the nearest dollar). This gives a reduction of 5 credits.

Therefore, the auction will be re-run, but this time AB1 can only bid for 9995 credits.

Appendix 3 – Documents and Forms

Checklist – Required Documents for Participation in PENNVEST Clearinghouse

Objective: Entity or Individual Becomes an Enrolled Participant (Section 6.2.2)

- Buyers must submit the following documents:
 - Enrollment Application
 - Evidence of financial guarantee (forward contracts)
 - Payment in full (spot Auctions)
 - Board Resolution (if required) – document A3.2
 - Evidence of Legal Existence (if required)
- Sellers must submit the following documents:
 - Enrollment Application
 - Evidence that Credits will be generated (forward contracts)
 - Evidence of verified Credits (Spot Contract Auctions)
 - Board Resolution (if required) – document A3.2
 - Evidence of Legal Existence (if required)
 - An implementation schedule or business plan identifying the major milestones required for generating certified credits

Objective: PENNVEST Confirms Enrollment (Section 6.2.3)

- PENNVEST to provide market participant with Eligibility Letter

Objective: Participants Proposes to Enter Into Contract With PENNVEST (Section 6.2.4)

- Auction participants submit Auction Bid Form or Auction Offer Form to the Auction Services Provider
- Clearing service participants submit Clearinghouse Services Form – document A3.6

- New growth and Option Pool participants submit New Growth and Option Pool Form – document A3.7

Objective: Auction Results (Section 6.2.5)

- Auction participants and clearing service participants will receive a Buyer Notification Letter or Seller Notification Letter – documents A3.8 and A3.9

Objective: Credit Payment and Transfer Procedures (Section 6.2.6 and Chapter 9)

- Purchasers of Credits from PENNVEST
 - Must transfer payment to PENNVEST
 - PENNVEST will provide Credit registration numbers upon receipt of payment
- Sellers of Credits to PENNVEST
 - PENNVEST must receive a copy of DEP Registration Letter
 - Payment proceeds will be transferred to Seller upon transfer of legal title of Registered Credits

A3.1 Sample Board Resolution

The undersigned does hereby certify that the following resolution has been adopted by (insert applicable name of entity), that said Resolution has not been amended, rescinded, or revoked, and in no way conflicts with any of the provisions of the charter or bylaws of (insert applicable name of entity).

RESOLVED: That the corporate officers or employees identified in Pennsylvania Infrastructure Investment Authority (PENNVEST) Enrollment Letter (including the undersigned), or any of them, be and hereby are, authorized to trade in Credits designated under Pennsylvania's Nutrient Credit Trading Program, for current or future delivery for the account and risk of (insert applicable name of entity), through PENNVESTs, and are granted the authority hereby, including the power to do any of the following:

- (a) To enter into this Resolution;
- (b) To buy, sell, and trade in Credits for current or future delivery;
- (c) To deposit with and withdraw from PENNVEST money, Credits, contracts for the purchase or sale of commodities, checks, and other negotiable instrument;
- (d) To receive and acquiesce in the correctness of notices, confirmations, requests, demands, and communications of every kind;
- (e) To settle, compromise, adjust and give releases with respect to any and all claims, demands, disputes and controversies, pending or contingent; and
- (f) To make other agreements and take any other action relating to any of the foregoing matters, including but not limited to the grant of discretionary trading authority to other individuals or entities.

FURTHER RESOLVED: That the (insert applicable name of entity) gives its officers or employees, and each of them, the broadest possible power with respect to the above Resolutions; and that (insert applicable name of entity) agrees to indemnify and hold PENNVEST harmless against any and all claims that may arise by reason of its following any directions, instructions and orders given to it by any of the officers or employees in respect to any of (insert applicable name of entity)'s accounts.

FURTHER RESOLVED: That PENNVEST is authorized to act upon the authority of this Resolution until receipt by PENNVEST of a certificate showing rescission or modification thereof signed by an executive officer of (insert applicable name of entity) and under its seal; and that PENNVEST is also authorized to recognize and deal with the officers or employees of (insert applicable name of entity) whose names are set forth in this Board Resolution, until receipt by PENNVEST of a certificate, signed by an executive officer of (insert applicable name of entity), setting forth the names of another person or persons as such officers or employees; and

FURTHER RESOLVED: That the officers referenced in this Board Resolution shall have the authority to grant discretionary trading authority to other individuals or entities.

Organization:

Signature:

Date:

Print Name:

Title:

Authorized Representatives Granted Discretionary Trading Authority:

A3.2 Clearinghouse Services Form for Bilaterally Negotiated Contracts

This form confirms that the following two parties _____ (Credit Buyer) and _____ (Credit Seller) have agreed to the forward sale and delivery of Credits in the following quantities, prices, and Compliance Years:

	Quantity of Credits (in Credits per year)	Price of Credits (in dollars and cents per Credit)	Compliance Year(s)
Susquehanna - Nitrogen			
Susquehanna - Phosphorus			
Potomac - Nitrogen			
Potomac - Phosphorus			

Both parties hereby certify that they have an Eligibility Letter from the Pennsylvania Infrastructure Investment Authority (“PENNVEST”) indicating the PENNVEST agrees to clear a transaction of this value for the applicable party.

Both parties hereby agree that if it enters into an executed contract for the sale or purchase of credits, that it will create a binding obligation on that party in accordance with the terms and conditions of the contract, the Clearinghouse Rules, as stated in the *PENNVEST Nutrient Credit Clearinghouse Rulebook*, which can be found on the PENNVEST Website <http://www.pennvest.state.pa.us>.

Buyer Organization:

Authorized Representative from Buyer Organization:

Signature of Buyer:

Date:

Seller Organization:

Authorized Representative from Seller Organization:

Signature of Seller:

Date:

A3.3 New Growth and Option Pool Form

This form submitted to the Pennsylvania Infrastructure Investment Authority (“PENNVEST”) by _____ (Developer/Seller) is to notify PENNVEST that the undersigned seeks to enter into a Call Option Contract for Credits in the following quantities, prices, Compliance Year(s) and Option Premium (all as more particularly defined in the *PENNVEST Nutrient Credit Clearinghouse Rulebook*, which can be found on the PENNVEST Website <http://www.pennvest.state.pa.us>):

	Quantity of Credits (in Credits per year)	Proposed Price of Credits (in dollars and cents per Credit)	Compliance Year(s)	Proposed Option Premium
Susquehanna - Nitrogen				
Susquehanna - Phosphorus				
Potomac - Nitrogen				
Potomac - Phosphorus				

Developer/Seller Organization:

Indicate whether organization is a Developer or Seller:

If you are a Seller, have you identified a Buyer for your credits?:

If you are a Developer, have you identified a Seller for the number of credits requested?:

Both parties hereby certify that they have an Eligibility Letter from the Pennsylvania Infrastructure Investment Authority (“PENNVEST”) indicating the PENNVEST agrees to clear a transaction of this value for the applicable party.

Both parties hereby agrees that if it enters into an executed contract for the sale or purchase of credits, that it will create a binding obligation on that party in accordance with the terms and conditions of the contract, the Clearinghouse Rules, as stated in the *PENNVEST Nutrient Credit Clearinghouse Rulebook*, which can be found on the PENNVEST Website <http://www.pennvest.state.pa.us>.

Authorized Representative from Developer or Seller Organization:

Signature of authorized representative of Developer/Seller:

Date:

A3.4 LETTER OF INTENT

The purpose of this document is to declare the intent of the signatories to enter into a Call Option Contract, so that the Buyer can make a demonstration to the Pennsylvania Department of Environmental Protection to show that the Buyer's new or expanded discharge will not result in a net increase in nutrients delivered to the Chesapeake Bay.

PARTIES

**Pennsylvania Infrastructure Investment Authority (PENNVEST) -
Seller of Credits through PENNVEST Clearinghouse-
Buyer of Credits through PENNVEST Clearinghouse-**

TERM

The Term of this document shall be _____, unless otherwise terminated by Buyer upon written notice to PENNVEST and DEP. The Seller agrees to reserve the identified amount of Credits for this Buyer and not market them to an outside party prior to the expiration of the Term of this document.

PARTIES' INTENTIONS

The Buyer hereby reserves the right to purchase the following type and amount of Credits through PENNVEST in the applicable Compliance Years, and if the Buyer exercises its right to purchase the Credits hereby reserved, Seller hereby agrees to sell the same through PENNVEST:

____ Credits of Nitrogen (Susquehanna / Potomac)
____ Credits of Phosphorus (Susquehanna / Potomac)

The type and amount of Credits outlined in this document have been calculated in the following manner:

If the Buyer exercises its right to purchase the Credits hereby reserved, Seller hereby agrees to sell the same through PENNVEST according to the following schedule:

For PENNVEST-

Signature Date

Name

For the Buyer-

Signature Date

Name, Title

For the Seller-

Signature Date

Name, Title

Appendix 4 – Auction Rules

- 1) Pennsylvania Infrastructure Investment Authority (“PENNVEST”) has retained Markit Group Limited, (“Auction Administrator”) to administer auctions (“Auctions”) for credits (“Credits”). Each Auction is subject to the general terms and conditions of the PENNVEST Nutrient Credit Clearinghouse Rulebook (“Rulebook”) and the Auction Rules contained herein, including any documents incorporated by reference, all as may be amended from time to time (together “Rules”), and PENNVEST and each person or entity that makes a bid to buy or offer to sell in an Auction evidences its agreement to be legally bound to the Rules by such participation. The details of a particular Auction (“Auction Terms”) posted at <http://www.pennvest.state.pa.us> or <http://www.markit.com> are expressly incorporated into and made a part of the Rules with respect to the subject Auction. Parties that do not agree to the Rules must not participate in an Auction.
- 2) Auction participants must review the Rules immediately prior to participating, as the Rules may be amended by the Auction Administrator at any time up to one business day prior to an Auction by posting amended Rules at <http://www.pennvest.state.pa.us> or <http://www.markit.com>. Rule amendments will be effective on the first business day following posting unless otherwise stated. Participating in an Auction after the effective date of a Rule amendment constitutes acceptance of the amended Rules; parties who do not agree to the amended Rules should immediately cease participation in any Auction.
- 3) Parties that desire to place bids to buy or offers to sell in an Auction must register in advance with PENNVEST using the Enrollment Form available at <http://www.markit.com>. A party will become eligible to participate in an Auction upon confirmation from PENNVEST that the party is an “Enrolled Participant”. The “Authorized Representative” identified in the Enrollment Form must be authorized to give information and instructions to the Auction Administrator, and the Auction Administrator will rely on any such information, approvals and instructions without further verification. PENNVEST may deny, limit or terminate enrollment or participation in any Auction before the commencement of the Auction, for causes deemed reasonable in its sole discretion.
- 4) Transaction fees associated with the Auction are as set forth in the instructions specific to each auction and posted at <http://www.markit.com>.
- 5) Enrolled Participants are responsible for acts and omissions of their representatives, and maintaining the security and integrity of systems used to submit bids and offers, and receive information about Auctions. Enrolled Participants should immediately contact PENNVEST at 717-425-5968 and the Auction Administrator at 917-441-6668 to report suspected problems.
- 6) Enrolled Participants may place bids and offers by submitting a properly completed Bid or Offer Form by logging in to the Markit Environmental Registry at <http://product.markit.com/home/index.jsp#REGISTRY.REGISTRY.AllUnits>. By submitting a Bid or Offer Form, each Enrolled Participant represents and warrants that the information contained therein is accurate and complete, and the Enrolled Participant assumes full responsibility for any inaccurate and incomplete information. Each seller of Credits represents and warrants that, except as it has expressly provided in its Offer Form: (i) the Credits have been issued and are maintained in its registry account identified in the Offer Form, or that there is a high degree of certainty that the Credits will be issued at the time stated in the Offer Form; (ii) it has complete and unconditional rights to sell the Credits, and the Credits are free of any mortgage, lien, easement or other encumbrance; (iii) the Credits are transferrable through a clearly established process; and (iv) it will not transfer or encumber the Credits to be sold in the Auction at any time prior to transfer to the successful buyers in an Auction.

- 7) Enrolled Participants will have the option of revising or cancelling a bid or offer in the auction window timeframe. If assistance is needed with this process you can contact the Auction Services Administrator at 917-441-6668.
- 8) Bids or offers, or cancellations will be deemed effective if received by the Auction Administrator by 5:00 p.m. on the day of the Auction.
- 9) Auction Administrator shall monitor the Auction bidding and may reject bids or bar or suspend participation by any Enrolled Participant that undertakes a course of action that Auction Administrator believes is calculated to subvert the Rules, game the Auction process, perpetrate fraud, or otherwise take unfair advantage or disrupt the Auction. Enrolled Participants hereby waive and release all claims against Auction Administrator for suspending or barring participation by any Enrolled Participant as provided under this Paragraph or from failing to detect such in appropriate means, provided Auction Administrator's actions or inaction are in good faith.
- 10) Successful buyers and sellers in an Auction will be determined by the Auction Administrator in accordance with the Rules. The Auction Administrator's determination of all matters relating to Auctions shall be final, including but not limited to the identity of successful buyers or sellers, the number of Credits bought or sold, the price of Credits and applicable transaction fees. Successful buyers and sellers in an Auction will have a legal obligation to promptly complete the transactions to effectuate the Auction results, including transferring Credits and paying applicable transaction fees and other charges, if any.
- 11) Promptly after the close of an Auction round, the Auction Administrator will determine the results pursuant to the Rules, including but not limited to identifying successful buyer(s) and seller(s), the quantity and price of Credits sold, and the transaction fees due to the Auction Administrator. All successful bids submitted by auction participants will be validated after the close of the Auction round to verify that the total amount (including transaction fees) due to PENNVEST does not exceed the pre-qualified dollar amount approved by PENNVEST. If bidder exceeds the pre-qualified maximum dollar amount, the filled quantities will be adjusted pro-rata based on the original size of the bid per credit. In the case of accounts submitting all-or-none bids, when the total amount due exceeds the pre-qualified dollar amount, it may result in one or more bids dropping out of the auction.

The Auction Administrator will decide any question of procedure or interpretation, and all Auction Administrator decisions will be final. The Auction Administrator will notify Enrolled Participants via email that the results of the auction round have been posted in their respective accounts with the Auction Services Provider.

- 12) The Auction Administrator will coordinate with each Enrolled Participant that bought or sold Credits at an Auction, and communicate instructions as necessary for transfer of Credits or payment. Enrolled Participants to which the Auction Administrator transmits such instructions will be legally bound to promptly complete transactions with PENNVEST as determined in the Rulebook.
- 13) Notwithstanding anything to the contrary, the Auction Administrator shall have no liability for the refusal of any party in a successful Auction to perform.
- 14) Enrolled Participants hereby grant PENNVEST and its agents the right to publicly disclose information regarding an Auction in such media as PENNVEST may choose in its sole discretion, including but not limited to describing: credits; Auction terms and conditions and results; successful buyers and sellers by name and the quantities that they bought and sold respectively. PENNVEST may share the foregoing information and any other details regarding any Auction as may be necessary or appropriate to permit an a successful buyer or seller and/or regulatory authorities, as the case may be, to pursue remedies against any Enrolled Participant that fails to

complete a transaction pursuant to the Auction results or is otherwise not in compliance with the law or the Rules.

- 15) The Auction Administrator makes no representation or guarantee that any result will be obtained from any Auction.
- 16) The Auction Administrator does not represent or warrant that its telecom or computer systems : (i) are compatible with any Enrolled Participant's telecom or computer systems, (ii) will be constantly available or available without delay, (iii) will operate without fault or failure, or (iv) will contain information that is accurate, error-free, complete or up-to-date. Each Enrolled Participant is solely responsible for its telecom and computer systems.
- 17) THE AUCTION ADMINISTRATOR AGREES TO USE COMMERCIALY REASONABLE EFFORTS TO ADMINISTER SUCH AUCTIONS ACCORDING TO APPLICABLE AUCTION RULES. EXCEPT AS PROVIDED IN THIS PARAGRAPH 17, AUCTION ADMINISTRATOR DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, REGARDING THE ADMINISTRATION OF ANY AUCTION, THE OPERATION OF AUCTION ADMINISTRATOR'S TELECOM AND COMPUTER SYSTEMS, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.
- 18) THE AUCTION ADMINISTRATOR HAS BEEN RETAINED BY PENNVEST TO ASSIST IN DESIGNING AND ADMINISTERING AUCTIONS OF CREDITS. NOTWITHSTANDING ANYTHING TO THE CONTRARY, THE AUCTION ADMINISTRATOR WILL NOT ACT AS AGENT, INTERMEDIARY OR REPRESENTATIVE OF ANY ENROLLED PARTICIPANT. THE AUCTION ADMINISTRATOR HAS NO CONTROL OVER, HAS NOT VERIFIED, AND DOES NOT GUARANTEE THE EXISTENCE, CHARACTERISTICS, QUALITY, QUANTITY OR LEGALITY OF CREDITS, THE TRUTH OR ACCURACY OF REPRESENTATIONS OF PARTIES SEEKING TO SELL CREDITS, THE ABILITY OF SELLERS TO SELL CREDITS, THE ABILITY OF BUYERS TO PAY FOR CREDITS, OR THAT ANY ENROLLED PARTICIPANT WILL ACTUALLY COMPLETE A TRANSACTION.
- 19) EACH ENROLLED PARTICIPANT HEREBY RELEASES AND WAIVES ALL CLAIMS AGAINST THE AUCTION ADMINISTRATOR, ITS OWNER(S), AFFILIATES AND SUBSIDIARIES, AND ITS AND THEIR RESPECTIVE EMPLOYEES, OFFICERS, DIRECTORS, AGENTS AND CONTRACTORS INVOLVED IN THE DESIGN AND ADMINISTRATION OF ANY AUCTION (TOGETHER, THE "AUCTION ADMINISTRATOR GROUP"), FOR ALL LOSSES, LIABILITIES, DAMAGES AND EXPENSES (INCLUDING LEGAL FEES AND COSTS), KNOWN OR UNKNOWN, ARISING NOW OR IN THE FUTURE FROM OR RELATING TO ANY AUCTION, EXCEPT TO THE EXTENT CAUSED BY THE RECKLESS OR WILLFUL MISCONDUCT OF ANY MEMBER OF THE AUCTION ADMINISTRATOR GROUP. FURTHER, EACH ENROLLED PARTICIPANT HEREBY INDEMNIFIES AND HOLDS THE AUCTION ADMINISTRATOR GROUP HARMLESS FOR ALL LOSSES, LIABILITIES, DAMAGES AND EXPENSES (INCLUDING LEGAL FEES AND COSTS) ARISING FROM OR RELATED TO SUCH ENROLLED PARTICIPANT'S ACTS OR OMISSIONS, INCLUDING BUT NOT LIMITED TO FAILURE TO COMPLY WITH THE RULES OR APPLICABLE LAWS.
- 20) IN NO EVENT SHALL THE AUCTION ADMINISTRATOR GROUP BE LIABLE TO ANY ENROLLED PARTICIPANT FOR INDIRECT, PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, SAVINGS, COMPETITIVE ADVANTAGE, GOOD WILL, REPUTATION OR BUSINESS INTERRUPTION.
- 21) IN ALL EVENTS, THE AUCTION ADMINISTRATOR GROUP'S AGGREGATE LIABILITY TO ANY ENROLLED PARTICIPANT FOR ANY AND ALL CLAIMS, LOSSES, LIABILITIES AND EXPENSES (INCLUDING LEGAL FEES AND COSTS) ARISING FROM OR RELATING TO ANY AUCTION SHALL BE LIMITED TO TWO HUNDRED DOLLARS U.S. (\$200.00). ANY CLAIM AGAINST ANY MEMBER OF THE AUCTION ADMINISTRATOR GROUP ARISING FROM OR RELATING TO ANY AUCTION SHALL BE BROUGHT WITHIN ONE (1) YEAR AFTER THE CAUSE OF ACTION ARISES.

- 22) The Rules do not transfer to any Enrolled Participant any rights in any trademarks, copyrights, patents, or other intellectual property of Auction Administrator or any third party, or any rights to use any intellectual property of Auction Administrator or any third party. The Auction Administrator reserves all rights not expressly granted by the Rules. The Auction Administrator will retain information concerning Auctions as required by law.
- 23) No person may undertake to enter into any agreement with the Auction Administrator or participate in any Auction who is under the age of eighteen (18) years of age or whose right to participate in an Auction has been suspended or terminated by the Auction Administrator.
- 24) Each Enrolled Participant agrees that to the extent it participates in any Auction, it will do so in good faith and will not try to subvert the Auction process or game the Auction system.
- 25) No agency, partnership, joint venture, employee-employer or franchiser-franchisee relationship is intended or created by the Rules.
- 26) Enrolled Participants shall serve legal notices on Auction Administrator, or other Enrolled Participants by internationally recognized overnight courier. The Auction Administrator may serve legal notices on Enrolled Participants via e-mail at the address specified in the Enrollment Application. If the Auction Administrator is informed that an e-mail address is invalid, it shall give notice by Regular US Mail to the Enrolled Participant's address stated in the Auction Administrator's records. Notice shall be deemed given 24 hours after an e-mail is sent, or three days after the date of deposit in the US Mail.
- 27) The laws of Commonwealth of Pennsylvania shall apply to the conduct of Auctions and to any resulting dispute, including its provisions regarding conflicts of laws.
- 28) Enrolled Participants may cease participation in an Auction at any time; provided however, rights and obligations deriving from past participation will continue to be governed by the Rules then in force. The Rules shall survive the close of any Auction, the completion of any transaction pursuant to Auction results, or any termination or expiration of the Rules.
- 29) Invalid or unenforceable provisions of the Rules, if any, shall be stricken and the remaining provisions shall be enforced. The Auction Administrator's failure to act with respect to a breach of the Rules does not waive its right to act with respect to subsequent or similar breaches. Discretionary acts of the Auction Administrator shall not be construed to create obligations beyond those expressly stated herein.