Wastewater Treatment Workgroup
BMP Verification Protocol Narrative

DRAFT – December 6th, 2012

Wastewater sector background and importance of verification

- **Wastewater**:
  Wastewater discharge facilities include municipal sewage treatment facilities and industrial facilities with direct discharges to waters of the United States. These facilities contributed 17.4 percent of the total nitrogen (TN) and 16.3 percent of the total phosphorus (TP) loads delivered to Chesapeake Bay tidal waters in 2011. Of these total nutrient loads from wastewater dischargers, the 468 significant facilities contributed 90% of nitrogen and 72 percent of phosphorus. The remaining loads came from the 5,215 non-significant facilities.

- **CSO:**
  In the Bay watershed, there are currently 50 reported active reported Combined Sewer Overflow (CSO) communities. A total of 64 CSOs have been tracked by the Bay Program Model and 14 of them are currently eliminated. In 2011, based on the modeling estimates, the remaining CSOs contributed 0.57 percent of the total nitrogen (TN) and 0.87 percent of the total phosphorus (TP) loads delivered to Chesapeake Bay tidal waters in 2011.

- **On-site Systems**:
  The Bay Program estimates that about 25 percent of the homes in the watershed have on-site/septic systems that provide basic treatment to household wastewater. Based on the phase 5.3.2 Chesapeake Bay Watershed Model, these on-site systems contributed approximately 8.3 million pounds or 3.4% of the total nitrogen load to the Bay in 2011.

Verification will confirm if the upgraded wastewater facilities, CSOs or septic systems are designed, installed, and maintained over time and meet the load reduction targets.

Existing BMP verification and inspection programs already in place and being built on

- **Wastewater - NPDES Regulation**
  The NPDES compliance system and monitoring requirements provides the most stringent verification for the implementation of the facility upgrade.

  All significant facilities have or will have nutrient permit limits.
  Some jurisdictions also have or will have nutrient permit limits or monitoring requirements on some of their nonsignificants.

  The wastewater load reduction goals in the Bay TMDL and jurisdictions' WIPs are only applied to the significant facilities. There are no load reduction goals for nonsignificant facilities in all Bay jurisdictions.

- **CSO - Long Term Control Plan**
  The Long Term Control Plan (LTCP) is required by the national CSO control policy to reduce overflows from CSO outfalls.

- On-site Systems – Construction permit and Inspection Requirement

  Existing regulations for on-site systems are different among the Bay jurisdictions. They vary from construction permits to more complex regulation through operating permits with inspection and monitoring requirements. MD and VA already have and DE will have the complex regulations for on-site systems.

Recommended verification protocol(s) and the underlying logic behind the approach

Recommended verification protocols:

For non-significant wastewater facilities, the Wastewater Treatment workgroup feels the existing NPDES regulation and the DMR reporting system provide sufficient verification.

- The existing NPDES Discharge Monitoring Report (DMR) will be used to report the load reductions due to non-sig wwtp BMPs that include upgrades and offsets of new or expanding nonsig plants.
- Annually track the universe of nutrient- and sediment-contributing nonsignificant facilities against established inventories for grouped wasteload allocations, report loads using the various mechanisms described in jurisdiction WIPs and document any allocation redistribution or changes in reporting structure that result from trading.

For CSOs, the workgroup is confident that the existing CSO regulatory process verifies implementation and maintenance.

For on-site systems, the workgroup suggests the related state regulations or following minimum elements for verification:

- State or local authorities should verify, track and report proper installation and O&M of on-site BMP systems. Verification may be through inspections by the design professional.
- The design and installation on-site BMP systems should be done and reported by the certified service providers and verified in the permitting processes.
- The maintenance and inspection of on-site BMP systems should be conducted and reported annually by certified providers and tracked by the authorities. For some low maintenance systems, such as enhanced conventional systems, the inspection frequency could be lower. The CBP on-site BMP expert panel will recommend inspection frequency by practice, which will be available in April 2013 Upon approval from the WWTWG, the final recommended inspection frequency may be adopted by the states.
- Tracking and reporting through the databases managed by state agencies.

Underlying logic

The workgroup felt that the existing national regulations have specific verification/inspection requirements for wastewater and CSOs, which meet or exceed the BMP Verification Principles. The verification/inspection programs for all non-significant wastewater plant upgrades will rely on the existing NPDES regulation and DMR reporting system, and existing CSO regulatory process will be used for CSOs.

There is no national regulation for on-site systems. Existing regulations or programs vary dramatically among the Bay jurisdictions, as does the willingness to participate in this verification effort. The recommended verification protocols were developed based on the best existing state regulations for on-site system that meet or exceed the Verification Principles.

How the recommended verification protocol(s) address the partnership's verification principles

The existing regulatory systems for CSOs and non-significant facilities meet or exceed the verification principles through a rigorous system of permits, inspections, and monitoring requirements that ensure accountability, proper design, implementation, operation and maintenance. For on-site systems, the recommended protocols are based on the best existing regulations and programs. The workgroup feels that these programs meet or exceed the verification principles.

The workgroup's process to develop the protocol(s)

1. Evaluate the existing BMP verification/inspection programs among the Bay jurisdictions.
2. Find what is need to be improved to meet the Verification Principles
3. Develop the protocols based on the best existing BMP verification/inspection programs that meet the Verification Principles

How the jurisdictions would implement the recommended protocol(s)

Non-significant wastewater facilities: Existing NPDES regulation and DMR reporting system.

- The existing NPDES Discharge Monitoring Report (DMR) will be used to report the load reductions due to non-sig wwtp BMPs that include upgrades and offsets of new or expanding nonsig plants.

- Annually track the universe of nutrient- and sediment-contributing nonsignificant facilities against established inventories for grouped wasteload allocations, report loads using the various mechanisms described in jurisdiction WIPs and document any allocation redistribution or changes in reporting structure that result from trading.

CSOs: Non-significant wastewater facilities: Use existing CSO regulatory process

On-site Systems: State regulations on septic systems or following minimum requirements

- State or local authorities should verify, track and report proper installation and O&M of on-site BMP systems.
- The design and installation on-site BMP systems should be done and reported by the certified service providers and verified in the permitting processes.
- The maintenance and inspection of on-site BMP systems should be conducted and reported annually by certified providers and tracked by the authorities. For some low maintenance systems, such as the enhanced conventional systems, the inspection frequency could be lower. The CBP on-site BMP expert panel will recommend the inspection frequency by practice, which will be available in April 2013 Upon approval from the WWTWG, the final recommended inspection frequency may be adopted by the states.
- Tracking and reporting through the databases managed by state agencies.

There is consensus among workgroup member on implementing the recommended protocols for non-significant wastewater facilities and CSOs which were based on the existing national regulation programs. However, the willingness and resources to implement the recommended protocols for on-site systems may vary among jurisdictions. The jurisdictions willing to participate in this effort will implement the recommended protocols through their regulations (existing or upcoming) on on-site systems or programs required for advanced on-site systems. These on-site system regulations or programs have specific maintenance and inspection requirements for the specific on-site systems. Currently, VA and MD have their regulations on on-site systems in place; DE has its regulation in draft that will become effective soon. WV is willing to meet the minimum verification requirements. DC has no on-site systems. PA and NY currently do not have the plan for on-site system BMP verification.

VA: REGULATIONS FOR ALTERNATIVE ON-SITE SEWAGE SYSTEMS
http://lis.virginia.gov/000/reg/TOC12005.HTM#C0613

MD: REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, AND SOLID WASTE Chapter 02 Sewage Disposal and Certain Water Systems for Homes and Other Establishments in the Counties of Maryland Where a Public Sewage System is Not Available Authority
http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=26.04.02

DE: REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND OPERATION OFON-SITE WASTEWATER TREATMENT AND DISPOSAL SYSTEMS (in draft)
http://www.dnrec.delaware.gov/wr/Information/GWDInfo/Documents/AmendedRegDraft2Clean1.pdf

Draft BMP Verification Protocols for WWTPs, CSOs and On-Site Systems

	Sig WWTP	*Non-sig WWTP*	*CSOs*	*On-Site Systems*
Draft Protocols	Existing NPDES Regulation	• The existing NPDES Discharge Monitoring Report (DMR) will be used to report the load reductions due to non-sig wwtp BMPs that include upgrades and offsets of new or expanding nonsig plants. • Annually track the universe of nutrient- and sediment-contributing nonsignificant facilities against established inventories for grouped wasteload allocations, report loads using the various mechanisms described in jurisdiction WIPs and document any allocation redistribution or changes in reporting structure that result from trading, offsetting or assimilation by other facilities.	• Construction Verification: properly designed, installed, and maintained by the certified service providers. • Post construction monitoring and Inspection. • Existing compliance and enforcement procedures. • Tracking and reporting	State regulations on septic systems or following minimum requirements that were developed based on the existing or upcoming state regulations in DE, MD and VA. • State or local authorities should verify, track and report proper installation and O&M of on-site BMP systems. • The design and installation on-site BMP systems should be done and reported by the certified service providers and verified in the permitting processes. • The maintenance and inspection of on-site BMP systems should be conducted and reported annually by certified providers and tracked by the authorities. For some low maintenance systems, such as the enhanced conventional systems, the inspection frequency could be lower. The CBP on-site BMP expert panel will recommend the inspection frequency by practice, which will be available in April 2013. Upon approval from the WWTWG, the final recommended inspection frequency may be adopted by the states. • Tracking and reporting through the databases managed by state agencies.
State Applicable	All	All	All	DE, MD, VA and WV
The Workgroup Recommendations And Comments	Agreed	Use existing NPDES DMR and state WIP defined procedures	Use existing CSO regulatory process	• DE, MD, VA and WV agreed to verify the on-site system BMPs. PA and NY do not have such plans currently. • Use existing or upcoming state regulations on on-site systems. • The expert panel may make recommendations for consideration by stakeholders regarding septic BMP inspection frequencies. These BMP inspection frequencies not the frequency of the BMP annual reporting to CBP.