Wastewater Treatment Workgroup
BMP Verification Protocol Narrative

FIRST DRAFT – December 4th, 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 64 reported Combined Sewer Overflow (CSO) communities tracked by the Bay Program and 14 of them are currently eliminated. In 2011, 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 septic systems that provide basic treatment to household wastewater, which contributes 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.

- **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.

- Monitoring requirement in the permit to verify the upgrade performance and the offsets of new or expanding non-significant plants.
- Jurisdictions report results through DMR.

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

For onsite 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 onsite BMP systems.
- The design and installation onsite BMP systems should be done and reported by certified service providers and verified in permitting processes.
- The maintenance and inspection of onsite 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 onsite BMP expert panel will recommend inspection frequency by practice.
- 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 on 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.

- Monitoring requirement in the permit to verify the upgrade performance and the offsets of new or expanding non-significant plants.
- Reporting the results through DMR.

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

Onsite Systems: State regulations on septic systems or following requirements

- State or local authorities should verify, track and report proper installation and O&M of onsite BMP systems.
- The design and installation onsite BMP systems should be done and reported by certified service providers and verified in permitting processes.
- The maintenance and inspection of onsite 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 onsite BMP expert panel will recommend the inspection frequency by practice.
- 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 selected not to participate in the effort for on-site system BMP verification.

VA: REGULATIONS FOR ALTERNATIVE ONSITE 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 Non-significant WWTPS, CSOs and On-Site Systems			
	Non-sig WWTP	***CSOs***	***On-Site Systems***
Draft Protocols	• Monitoring requirement in the permit to verify nonsig wwtp upgrades and the offsets of new or expanding nonsig plants. • Reporting the results through DMR.	• Construction Verification: properly designed, installed, and maintained by certified service providers. • Post construction monitoring or confirmation sampling and Inspection. • Existing compliance and enforcement procedures. • Tracking and reporting	• State or local authorities should verify, track and report proper installation and O&M of onsite BMP systems. • The design and installation onsite BMP systems should be done and reported by certified service providers and verified in permitting processes. • The maintenance and inspection of onsite 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 onsite BMP expert panel will recommend the inspection frequency by practice. • Tracking and reporting through the databases managed by state agencies.
The Workgroup Recommendations And Comments	Agreed	Use existing CSO regulatory process	Use existing or upcoming state regulations on on-site systems. The septic BMP inspection frequencies should come from the expert panel recommendations and be considered separately from the frequency of the BMP annual reporting.