State Responses on BMP Verification Questions:

Non-significant WWTPs:

Development of protocols for ensuring non-significant permitted discharge facilities seeking credit for nutrient load reductions provide monitoring-based confirmation of load reductions –Some jurisdictions re-categorize to significant facility status and provide a facility specific allocation and monitoring requirements.
–How does the Workgroup plan to verify these facilities are achieving actual nutrient load reductions?

MD: All existing non-sigs to claim upgrade credits and new non-sigs without WLAs are required to report monitoring data.

DE DE already has monitoring requirements for the nonsig plant (only one) in the Bay Watershed.

WV: Nonsigs seeking credit (or using performance based offsets) will get a facility-specific allocation and monitoring requirements. They will be verified under the same approach prescribed for sigs - NPDES limits, self-monitoring and DMR reporting and compliance monitoring and inspection.

VA: If non-significant facilities are to be granted credits, then monitoring must be performed to document that they are operating under their WLA. If a non-significant facility is to be connected to a larger regional facility, then the WLA or some fraction of the WLA can be transferred to the new receiving facility. In VA, this may or may not entail additional monitoring. Connection of non-sig municipal facilities generates additional WLA for the receiving facility based on design flow of the non-sig and 8 mg/l TN and 1 mg/l TP. Additional monitoring is typically required to establish loads from industrial facilities connecting to regional WWTPs.

PA: EPA can review effluent monitoring results.

DC: Monitoring must be performed to claim upgrade credit.

NY: It is NY's intention to add a monitoring requirement to all of the Non Significant WWTP permit requirements.

Combined Sewer Overflows:

Development of protocols for ensuring verification of nutrient and sediment load reductions from reduced or eliminated combined sewer overflows upon implementation of long term control plans
–Do the existing long term control plans address monitoring to document reductions in or elimination of overflows?

–How does the Workgroup plan to verify the implementation and the effectiveness of long term control plans?

MD: The requirement to conduct post-monitoring is included in the CSO permits issued to Frostburg, LaVale, Allegany County and Westernport and the NPDES permits issued for the Cambridge WWTP and Cumberland WWTP. The Permit requires upstream and downstream sampling for the following constituents:

- Ammonia-N
- BOD5
- Total Suspended Solids
- Total Phosphorus
- Total Nitrogen
- E. Coli

This requirement is also incorporated by reference in the Western Maryland judicial consent decrees. In addition, the above mentioned Permits included a re-opener clause that allows for modification of the permit to address new information identified from the implementation of the LTCP; if CSO controls fail to ensure the attainment of WQSs or to update the Permit to comply with new State of Federal law adopted after the Permit is issued.

In some cases MDE has determined that no further monitoring is required. For example, the City of Salisbury has eliminated its CSO discharges by sealing the outfalls - no further monitoring is required.

In other cases, confirmatory sampling and analysis for BOD5, ammonia, nitrogen and fecal coliform were conducted upon completion of the project. For example, Baltimore City - eliminated the CSO discharges in the Walbrook area in the Spring of 2001. Confirmatory sampling and analysis for BOD5, ammonia, nitrogen and fecal coliform was conducted in 2001 and completed in 2002. The elimination of CSO discharges in the Forest Park area of the City was completed in June 2006. Confirmatory sampling and analysis was conducted from December 2005- January 2006 for BOD, fecal coliform, fluoride, nitrogen and ammonia. MDE and EPA have required further testing for one CSO structure based on an inspection by MDE that indicated the discharge of sewage. The City completed the additional testing in March 2012 and the results are currently under review.

DE: Long Term Control Plans (LTCP) are required for communities with Combined Sewer Overflows (CSO). Delaware does not have any CSO communities in the Chesapeake Watershed, so we don't think we need to address these.

WV: We intend a very simple approach for CSOs with performance based on number of overflows per year. $\leq$ 6 overflows = 85% reduction, >6 = 0%, 0 = 100%. Verification will be through CSO program implementation - review of CSO reports, corrective actions through enforcement as warranted.

VA: LTCPs are primarily designed to address bacterial impairments and in VA will have little impact on CB nutrient or sediment reduction goals. We therefore don't think additional monitoring or reporting protocols beyond those already part of the NPDES permits is warranted. If in the course of implementing LTCP projects the TN, TP or sediment loads are reduced, the results will be reflected in modeling used by the permittees to generate the CSO loads for the previous year. These loads can then be used to populate the CB progress runs.

PA: No monitoring however if overflow eliminated as per the LTCP it will be reported. Elimination of overflow will be reported if continued overflows occur then pursuant to regulations the entities will need to report it. Violations will be managed via existing compliance and enforcement procedures.

DC: Please see section D on pages 45-48 of DC Water's NPDES Permit (attached) which provide for post-construction monitoring of the combined sewer system to evaluate the effectiveness of CSO controls. The monitoring is to occur in 3 phases as CSO controls are implemented. The permit also describes in detail what needs to be monitored and the evaluations to be conducted to assess the efficacy of the CSO controls.

NY: The NYS CSO program includes monitoring to document reductions and elimination of CSO overflows. Nutrient and sediment load reduction is a goal of the program. All CSO permittees in NY State have a SPDES permit requirement to submit CSO Best Management Practices (BMP) Annual reports. The 13 BMPs are equivalent to the EPA CSO Nine Minimum Controls. New York is currently preparing a standard format for the BMP Annual reports. The purpose of the BMP report is to document and report work done in the collection system to reduce or eliminate overflows. Any outfalls that are closed (eliminated) would be reported on the cover sheet. The cover sheet also asks for an estimate of the number of overflows in the past year. (Not all permittees have SCADA systems to indicate when an overflow occurs or the volume discharged.)

The BMPs specifically concerned with nutrient removal would be associated with sediment and grit removal:

BMP #1 CSO Maintenance/Inspection includes sewer cleaning and grit removal.

BMP #2 Maximize Use of Collection System for Storage includes sewer cleaning and sediment removal.

Monitoring is specifically required in BMP #14 Characterization and Monitoring, which includes baseline sampling of the receiving water body. In addition to the BMP Annual report, some permittees are required to submit Post Construction Monitoring and Modeling Plans. The purpose of these plans is to document improvements in the receiving water through sampling.

NYSDEC tracks the implementation of LTCPs and reviews and approves Post Construction Monitoring and Modeling Plans. Review of the BMP annual report and on site inspections will be used to determine compliance. NYSDEC communicates regularly with EPA Region 2 on the CSO program.

On-site treatment systems:

Development of verification protocols addressing the full range of possible means for on-site treatment systems tracking and reporting nutrient load reductions
–Replacement with a denitrifying on-site treatment system
–Hook-up to an existing wastewater treatment collection system
–Pump-outs and other regular maintenance
–Additional septic BMPs

What's the Workgroup's thinking on the types of protocols needed to verify the proper installation and maintenance of these on-site systems?

MD: MDE and MDE's designated approving authorities are verifying, tracking and reporting proper installation of MDE approved BAT systems which are being used for the upgrade of on-site systems.

MDE has published a proposed regulation that would require reporting of all BAT installations and reporting of all O&M visits that must occur at least once per year. Please see the following language from the proposed regulation:

C. All new and existing BAT systems shall be maintained and operated for the life of the system through one of the following management measures:
(1) The Approving Authority or local government establishes a responsible management entity, acceptable to the Department, to assume operation and maintenance of BAT systems;
(2) The Approving Authority requires renewable operating permits that include enforcement provisions, inspections and monitoring; or
(3) The property owner maintains a service contract with a certified service provider.
D. A BAT system shall be operated by and maintained by a certified service provider.
(1) The owner shall ensure that each BAT system is inspected and has necessary operation and maintenance performed by a certified service provider at a minimum of once per year.
(2) The Department shall maintain a list of certified service providers.
(3) Individuals may become certified upon completion of a course of study on operation and maintenance of BAT systems approved by the Department. The course of study must

include instruction on how BAT systems function as well as elements on operation, maintenance and repair of BAT systems.
(4) Certification as a service provider for BAT systems may be revoked at any time by the Department for violation of these regulations.
(5) The certified service provider shall report on inspection, operation and maintenance activities to the Department, or the Department's designee, in a manner acceptable to the Department on a yearly basis prior to the yearly anniversary of the date of installation

DE: DNREC's Ground Water Discharges Section (GWDS) currently maintains two databases that track and report details about best management practices related to onsite wastewater treatment and disposal systems – one for small systems and one for large systems within DNREC's Environmental Navigator (http://www.nav.dnrec.delaware.gov/DEN3/). These databases contains information regarding the location and types of on-site systems permitted within the state, including innovative and alternative (I/A) technologies that employ de-nitrification. All I/A's have mandatory operation and maintenance requirements (contract required with certified service providers). The GWDS requires that certified inspectors (Class H inspectors) submit reports following inspections (which require a pump-out) and this information is also logged into our database. The GWDS has proposed regulations that will require inspection when properties are sold or transferred to new ownership. Additionally, the revised regulations will require waste haulers to submit quarterly pump-outs records to include property location so that we can get better data on pump-out frequency. As new systems are installed, 24 hour notification before installation of the system is required to enable staff to perform random inspections. Typically, we have a 60% inspection rate (all engineered and I/A systems have mandatory inspections, which require inspections by both the Department and engineer). The revised regulations will also require a new Class I system inspector to increase the inspection rate to 100%. Finally, as systems are abandoned when homes are connected to central sewer, this information is also captured in the database.

WV: Most of our on-sites are individual home traditional septic systems for which our WIP does not prescribe pollutant reductions. We annually report pump outs and connections to centralized systems. Pump out info is collected by individual inquiry to cooperating service providers with results recorded and maintained. Similarly, we make individual inquiry to POTWs and maintain records of the connection information that they report.
Given the relatively small benefits from these BMPs, we would hope that this level of verification rigor suffices. We have very limited experiences with tracking denitrifying or other enhanced onsite systems. We believe that we could coordinate with the county and/or state health department and/or our UIC staff to verify initial installation based on the various permitting programs that exist. Verification protocols for maintenance of installed systems over time would best be determined by the expert panels currently charged with determining removal efficiencies.

VA: VDH already adopted the Alternative Onsite Sewage Regulations 12 VAC5-613-10 et seq. that address some of these issues. Any nitrogen removal systems installed are

considered alternative onsite sewage systems (AOSS) and would fall under these regulations.

1. Completion statements from the designer are required for all system installations that the system was installed in substantial compliance with the approved plans and specs. In some cases VDH may be issuing completion statements but normally this would be the private sector.
2. All small AOSSs (new and existing ≤1,000 gpd) are required to submit an inspection report annually to VDH through a web based reporting system. Those reports can only be submitted by licensed AOSS operators. Additional maintenance may be needed depending on the system, but at a minimum, VDH will get at least an annual report on the status of the system. Nitrogen reducing systems will be identified through the EPA BMP process. No sampling is anticipated to verify the BMP – only that it is functioning as designed.
3. Large AOSSs have the same completion statement requirement as the small systems.
4. Large AOSSs have minimum operator visit frequencies that vary from quarterly to daily depending on flow (for operator visits >monthly, reports are only required monthly. Sampling is required for the large systems for TN. Again that frequency escalates as the design flow increases (annual up to weekly for TN)

VDH tracks and can report pump-outs in the Chesapeake Bay Act areas (generally east of I-95) but not in the rest of the Bay watershed. There is currently no formal tracking of septic connections in VA.

PA: Pennsylvania Department of Environmental Protection (Pa DEP) has address the issues concerning on-site treatment numerous times. We do not feel, at this time, that on-site treatment systems in PA are contributing an amount of nutrients to the Chesapeake Bay to warrant these protocols mandatory implementation in PA.

The Pa DEP when necessary by current regulation can require de-nitrification systems to be installed.

The reporting of hook ups of on-site systems are reported by wastewater treatment facilities as required by their NPDES permits supplement when the facility owner/operators seek offsets of load.

Routine pump outs of existing and future on-site systems are currently recommended by regulation and may be required by municipal ordinance when Sewage Management Programs are put into place by municipalities.

Pa DEP is always reviewing vendor submitted alternate technologies for on-site treatment systems.

DC: No comments

NY: No comments