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A GUIDE FOR EPA'S EVALUATION OF PHASE I WATERSHED IMPLEMENTATION PLANS

This Guide provides clarification regarding how EPA will review and evaluate the Chesapeake Bay TMDL Phase I Watershed Implementation Plans (WIPs) submitted by the states and the District of Columbia (Bay jurisdictions). EPA communicated its expectations for the WIPs in a November 4, 2009 letter to the Chesapeake Bay Program Principals' Staff Committee.[1] EPA has compiled this Guide in response to requests from the Bay jurisdictions for more specific information on how they should build and submit their preliminary, draft and final Phase I WIPs. This Guide provides additional detail that is in line with EPA's expectations for WIPs as previously described in the November 2009 letter.

The key information that EPA expects the seven Bay jurisdictions to identify in their Phase I WIP is:

- Distribution of nutrient and sediment target loads that achieve water quality standards for dissolved oxygen, clarity and chlorophyll-a in the Chesapeake Bay and its tidal tributaries among sources, sectors and areas draining to each tidal segment. EPA would consider these detailed target loads when developing wasteload allocations for point sources and load allocations for nonpoint sources during the establishment of the Chesapeake Bay Total Maximum Daily Load (TMDL);
- Strategies to have controls in place by 2025 that would achieve target loads, and by 2017 that would result in 60% of necessary nutrient and sediment reductions compared to current loads. EPA expects strategies to address existing as well as new or expanded sources of nutrients and sediment;
- An explanation of how Bay jurisdictions will track and verify practices to reduce existing nutrient and sediment loads and offset future loads; and
- Program implementation milestones to allow EPA to assess progress toward meeting interim and final target loads over the course of future two-year milestones, and determine whether federal actions may be warranted to ensure restoration efforts continue on schedule.

In order to provide EPA with the information it needs for the Bay TMDL, EPA expects each Bay jurisdiction's Phase I WIP to address the questions, issues and types of information presented under each of the eight elements below, as identified in EPA's November 4, 2009 letter. EPA expects the level of detail provided by the Bay jurisdictions for each sector and program to be commensurate with the level of reduction proposed in the WIP for each sector and program. If a Bay jurisdiction proposes providing alternative information or methods to those described below to address EPA's expectations, EPA may consider their proposal and, as necessary, request additional information.

Element 1: Interim and Final Target Loads

- Are the cumulative target loads for point and nonpoint sources of nitrogen, phosphorus and sediment consistent with the target loads presented in Element 8 of the WIP?

[1] U.S. EPA, Letter from Region III Acting Administrator William C. Early to Secretary L. Preston Bryant, Virginia Department of Natural Resources, November 4, 2009 accessed at <http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/tmdl_implementation_letter_110409.pdf>

Element 2: Current Loading Baseline and Program Capacity

A. General

- EPA will use the Phase 5.3 Watershed Model 2009 progress scenario based on point source and nonpoint source implementation data reported by the Bay jurisdictions to estimate:
    - Nitrogen, phosphorus and sediment loads delivered to the Bay, distributed by source, sector and watershed area draining to each of the 92 tidal segments of the Bay
    - Current implementation rates of nutrient and sediment controls (e.g., percent of acres, operations and/or sources with controls in place)
- EPA expects the Bay jurisdictions to use the options in Appendices 1 and 2 to distribute these loads and associated nutrient and sediment controls among point and nonpoint sources
- Bay jurisdictions may submit alternative information on current loads to the Bay and nutrient and sediment control implementation rates by source, sector and area draining to each of the 92 tidal segments of the Bay for EPA's consideration if they provide appropriate documentation
- What are current nutrient and sediment loads from federal lands and facilities? EPA, federal agencies serving on the Federal Leadership Committee for the Chesapeake Bay and other federal agencies with holdings in the watershed can assist with the location of and current nutrient and sediment loads from federal lands and facilities.
- For regulatory programs identified in the WIP as currently controlling nutrient and sediment loads:
    - What percent of operations or sources subject to NPDES regulations have permits?
    - What percent of operations are inspected/audited annually? By whom?
    - What are penalties for noncompliance?
- For voluntary and/or incentive-based programs identified in the WIP as currently controlling nutrient and sediment loads:
    - How do programs verify that controls are installed and maintained?
    - What are repercussions, penalties for false reporting or improper installation or maintenance of voluntary practices?

B. Agriculture

- Is there a minimum set of management practices to be included in nutrient management plans? If so, how is the inclusion and implementation of these practices verified?
- How is phosphorus managed in soils?
- How are appropriate agronomic rates determined for application of manure/biosolids/organic byproducts?

Element 3: Account for Growth

EPA expects the Bay jurisdictions to demonstrate in their WIPs how they intend to account for any increases in loads from point and nonpoint sources of nitrogen, phosphorus, and sediment.

Designating Target Loads for New or Increased Sources

In their WIPs, the Bay jurisdictions might decide to designate target loads for anticipated new and/or increased point and nonpoint source discharges of nitrogen, phosphorus and sediment. In the TMDL, EPA would convert these target loads into wasteload and load allocations for new and increased loadings of nitrogen, phosphorus and sediment. Setting aside these target loads to account for loading increases resulting from future growth would, in all likelihood, decrease the allocations available for existing point and nonpoint sources. Each Bay jurisdiction will have a certain overall target pollutant loading cap. Therefore, if EPA establishes allocations for future new and/or increased sources in the Bay TMDL, then EPA would establish smaller wasteload and load allocations for existing sources so that the sum of all existing and future wasteload and load allocations is a TMDL that meets water quality standards in all tidal segments of the Bay. With this in mind, EPA expects Bay jurisdictions to consider the following questions if they prepare WIPs with target loads for new and/or increased loads of nutrients and sediment:

- What is the jurisdiction's method for estimating target loads for new or increased loads from point and nonpoint sources of nutrients and sediment?
    - Is the method based on continuation of existing trends? If not, why?
- What systems will be put in place to ensure that local water quality is maintained and/or local TMDLs are complied with in light of anticipated new or increased loads from point and nonpoint sources?
- What systems will be put in place to effectively track the consumption of future target loads by new or expanded sources and ensure that new or increased loads do not exceed future target loads?
- How will the jurisdiction ensure that any long-term conditions or limitations on land development are maintained, if used as part of a loading management program?

Offsets and Net Improvement Offsets for New or Increased Sources

EPA will reflect loading targets identified in jurisdictions' WIPs in the Bay TMDL's wasteload and load allocations, subject to a demonstration of reasonable assurance. Point sources will be permitted to deliver nutrient and sediment loads to the Bay consistent with the amount designated in the relevant target load and wasteload allocation. If a Bay jurisdiction decides not to identify explicit targets for future new or increased contributions of nitrogen, phosphorus or sediment in its WIP, EPA would not establish explicit allocations for future new or increased contributions. However, EPA would expect that the jurisdiction would "offset" any new or increased nutrient and sediment loads by a reduction elsewhere that would account for the entire delivered nutrient and sediment loads after accounting for location of the sources, delivery factors, equivalency of pollutants and the certainty of any such reductions.

EPA will closely monitor each jurisdiction's commitments under the 2-year milestones. Where a jurisdiction's progress toward implementing strategies is not on schedule to ensure that nutrient and sediment controls are in place by 2017 and 2025 to meet interim and final target loads, EPA would expect any new or increased nutrient and sediment loads to be compensated for by a "net improvement offset" that quickens the pace of implementing controls to meet Bay water quality standards. As EPA uses the term, a "net improvement offset" is an offset ratio greater than merely accounting for the entire delivered load. The "net improvement offset ratio" should be based on historical trends of pollutant loads and the rate necessary to meet TMDL goals. EPA believes that a "net improvement offset" for any new or increasing discharges will help achieve load reductions and meet the Bay's water quality standards more quickly than an offset that merely accounts for the delivered load.

Given the significance of offsets for planning, permitting, and nonpoint source control where jurisdictions do not otherwise account for new or increased discharges in their WIP target loads, EPA expects that WIPs will describe how a program for managing offsets or "net improvement offsets" to meet water

quality standards will be structured and enforced. In particular, EPA expects jurisdictions to describe how any offsets would address the following provisions:

Consistency: Whether and how the jurisdiction will ensure that any offsets for new or increased sources is consistent with information in its WIP and the assumptions and requirements of the allocations in the Bay TMDL. EPA expects each Bay jurisdiction to address how its use of offsets would account for the following : 1) nutrient delivery equivalency of the offset generated and the offset consumed both in terms of the equivalency of pollutants and the location of the sources, as confirmed by the Chesapeake Bay Program Watershed Model; 2) certainty regarding estimation of the offset and the potential performance of the offset generator; 3) attainment of the Bay TMDL or local water quality baseline by the generator of the offset; 4) direct and indirect pollutant load increases as a result of the new loadings; 5) whether the offset will comply with antidegradation standards; and 6) whether, as appropriate, the offset will offer a net improvement to the waterbody.

Sustainability: Whether pollutant reduction practices being used for the generation of an offset are verified to be in place, fully functioning and generating the necessary pollutant reductions at the time that the new or increased loads are generated. Whether offsets are expected to be generated throughout the life of the increased/expanded load that is utilizing the offset(s). The offset should be identified in the permit and permit application where applicable.

Quantifiable: Whether any offset for a new or increased load is quantifiable, i.e., the reduction is "real," in addition to what jurisdictions identify in their WIPs as necessary to meet target loads and can be verified consistent with provisions outlined under Element 6: Tracking and Reporting Protocols.

Enforceable: Whether any offset for a new or increased source will be recorded in an NPDES permit or similar regulatory instrument for the new or increased discharger that clearly establishes conditions and liability of the generator and receiver. EPA also expects jurisdictions to address whether they have an accountability system for offsets for new or increased nonpoint source loadings.

Authority: Whether authority exists to require offsets or net improvement offsets through permitting and nonpoint source programs.

Progress: Whether the Bay jurisdiction has a system in place to ensure that the source has met its existing wasteload or load allocation prior to granting an offset for an increased discharge.

EPA believes that a Bay jurisdiction's permitting, planning, and implementation tracking programs are critical elements in a jurisdiction's offset program. EPA encourages the jurisdictions to use or enhance their existing trading programs or, if necessary, develop new offset programs. EPA also encourages the states and D.C to consider whether it makes sense for them individually (or collectively with EPA's assistance) to develop and use offset "banking" systems to facilitate the implementation and accountability of offset programs. Such offset "banks" could monitor and validate offset-generating projects and efficiently manage offset transactions and their use in permits.

If a Bay jurisdiction has not chosen to explicitly reserve pollutant loading for new or increased point or nonpoint sources of nitrogen, phosphorus and sediment in their WIP, does not provide a credible strategy to offset new or increased point or nonpoint loads, or fails to offset new or increased loads, EPA may take actions as described in the EPA letter of December 29, 2009.

Element 4: Gap Analysis

- By how much do nutrient and sediment control implementation rates need to increase, compared to current rates identified in Element 2, in order to implement nutrient and sediment controls that would achieve interim and final target loads identified in Elements 1 and 8? Note that EPA can assist with current implementation rate estimates based on annual "Progress Runs."
- By how much do compliance and participation rates need to increase to achieve these implementation rates?
- What additional regulatory or enforcement authorities could be necessary to meet these compliance and implementation rates? May discuss further under Elements 5 and 7.
- How much additional staffing, technical resources, outreach and funding are necessary to meet these compliance, participation and implementation rates? May discuss further under Elements 5 and 7.

Element 5: Commitment and Strategy to Fill Gaps[2]

A. General

- How could existing regulatory and incentive-based programs be modified or targeted to achieve additional nutrient and sediment reductions? When might these modifications occur?
- How does the Bay jurisdiction propose possibly modifying technical standards, BMP manuals, permitting strategies, minimum practices within nutrient management plans and/or conditions for receiving cost-share assistance to require additional nutrient and sediment controls?
    - What additional controls might be required?
    - When might these standards, manuals, strategies, minimum requirements and/or contract conditions be modified, and when would additional controls be required?
    - How could the Bay jurisdiction assure compliance with new standards, etc?
- How does the Bay jurisdiction, working with other agencies and third parties as applicable, propose to improve compliance and participation rates with regulatory and incentive-based programs?
    - What are expected or proposed milestones?
    - When might these milestones occur?
- If the Bay jurisdiction is proposing new, expanded or modified legislative and/or regulatory actions:
    - What are expected milestones to develop, expand or modify legislation and/or regulations, and when might these milestones occur?
    - What additional controls could result from these changes, to what universe of regulated entities, and when might these controls be required? Bay jurisdictions may use options within Appendices 1 and 2 to identify the universe of entities subject to new or enhanced regulatory programs.
    - How might the Bay jurisdiction ensure compliance with new requirements?
    - How might the Bay jurisdiction ensure timely permitting and eliminate backlogs?

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[2] EPA recognizes that the implementation of future strategies and milestones are subject to refinement in Phase II and III Watershed Implementation Plans and 2-year milestones, so long as Bay jurisdictions are on pace to have practices in place by 2025 to meet water quality standards in all tidal segments and practices in place by 2017 that would result in 60% of necessary nutrient and sediment reductions compared to current loads.

- Is the Bay jurisdiction proposing any programs, projects, or policies designed to achieve additional nutrient and sediment reductions in targeted basins or watersheds? If so, how and when is the Bay jurisdiction proposing to implement these targeted efforts?
- How is the Bay jurisdiction proposing to assure that adequate resources (e.g., funding, FTE, tools) are available for the above commitments? When might it secure these resources?
- What additional nutrient and sediment controls could be applied to federal lands and facilities? Which controls might be required by the Bay jurisdiction? What are expected or possible milestones for implementing these controls? When might these milestones occur? Federal agencies serving on the Federal Leadership Committee for the Chesapeake Bay and other federal agencies with holdings in the watershed can provide information on programs and policies to achieve nutrient and sediment reductions from federal lands and facilities, in particular from nonpoint sources. Jurisdictions may consult with federal agencies when identifying current, interim and future target loads from federal lands and facilities.

B. Agriculture

- How could the Bay jurisdiction address historical phosphorus accumulation in soils that will contribute future loads to the Bay?
- Is the Bay jurisdiction considering modifications to methods for determining appropriate agronomic rates for the application of manure, biosolids, and/or organic byproducts, including, for CAFOs, state technical standards developed in accordance with 40 CFR 123.36? When might any modifications occur?
- How could the Bay jurisdiction work with partners to improve coordination, communication, stakeholder engagement and/or availability of financial resources to facilitate nutrient and sediment reductions from agricultural lands in general and from manure management in particular? What are proposed or expected milestones, and when might they occur?
- If the Bay jurisdiction's NPDES regulations for CAFOs have not been revised to be consistent, at minimum, with the Federal regulations as of November 19, 2008 and are not anticipated to be approved by the applicable deadline, does the WIP include a schedule detailing the steps necessary to revise the regulations for EPA review and approval?
- Does the WIP demonstrate that the Bay jurisdiction's NPDES Compliance and Enforcement Program has adequate resources to conduct (1) compliance inspections of all permitted CAFOs, at least once every five years, (2) CAFO determination inspections of all unpermitted Large CAFOs and all Medium AFOs at least one time [in the five years or by December 31, 2016], and (3) conduct on-site visits of AFOs for the purpose of evaluating criteria for designation. If these resources do not currently exist, when will they be available?
- If the Bay jurisdiction's WIP identifies new technologies for controlling or reducing nutrient and sediment loads from animal operations and row crop agriculture, provide proposed and expected milestones and dates for the following:
    - When might these new technologies go through the EPA-approved peer-review process described in Element 6?
    - When might these technologies become available?
    - What is their expected likelihood of adoption based on farmer interest, technical and/or financial assistance, capacity of federal or state program to promote adoption, and other considerations?
    - What is a realistic timeframe for widespread adoption?

C. Wastewater

Municipal and Industrial Point Sources

Water quality-based effluent limits (WQBELs) applied to dischargers under their NPDES permits are calculated based on individual wasteload allocations either established through TMDLs or by other water quality modeling. Therefore, EPA expects the Phase I WIPs to address the development of individual nitrogen, phosphorus and, as applicable, sediment target loads for wastewater treatment plants that EPA can use to establish individual, aggregate or gross wasteload allocations in the Bay TMDL. EPA also expects the Phase I WIPs to identify the requirements that will be put into NPDES permits to achieve the individual, aggregate, or gross loads.

Significant Municipal and Industrial Wastewater Treatment Plants

- EPA expects the Phase I WIPs to include individual final target loads for nitrogen, phosphorus and sediment for each significant municipal and industrial wastewater treatment plant. These loads will allow the permit writer to establish the appropriate effluent limits when the permits come up for renewal. For significant industrial facilities, EPA expects the Phase I WIP to include individual target loads based on existing monitoring data and any Bay jurisdiction-recommended target load. EPA will use this information to establish individual wasteload allocations in DC and tidal states (MD, VA, DE) and gross wasteload allocations in nontidal states (NY, DE, WV). EPA may decide to establish individual wasteload allocations in the nontidal states as one of the federal actions described in the EPA December 29, 2009 letter.
- If a Bay jurisdiction is proposing to maintain Tributary Strategy limits as referenced in the Chesapeake Bay permitting strategy, EPA expects the WIP to include dates by which facilities will be fully compliant with permit limits.
- If a Bay jurisdiction is proposing to modify Tributary Strategy limits as referenced in the Chesapeake Bay permitting strategy, EPA expects the WIP to identify the date when permits will be reissued to include the revised loads and the date by which facilities will be fully compliant with new permit limits.
- For significant facilities that are not identified with target loads in the Phase I WIP, EPA will assume a "zero" wasteload allocation for nitrogen, phosphorus and sediment for that discharger.

Nonsignificant Municipal and Industrial Wastewater Treatment Plants

A Bay jurisdiction may use the loadings from nonsignificant municipal and industrial wastewater facilities that are incorporated into the Phase 5.3 Watershed Model calibration and 2009 progress scenario, including location, flow and concentration, when establishing aggregate target loads for nonsignificant wastewater treatment plants as long as:

- The jurisdiction has enough information to incorporate into appropriate NPDES permit requirements; and
- The jurisdiction commits to ensure offsets for any loads from nonsignificant facilities not currently reported to the model or that lead to an exceedance of aggregate wasteload allocations, consistent with the offset provisions described in Element 3.

If a Bay jurisdiction does not agree with the Phase 5.3 Watershed Model assumptions, EPA would expect the WIP to provide analysis as to the anticipated or actual loads from the nonsignificant municipal and industrial facilities. Examples of how these loads could be determined include but are not limited to:

1. For nonsignificant municipal facilities:

- Total the permitted / design flow on a county-wide basis.
- Convert flow into a loading based on the default concentrations (eg, 18/mg/l TN, 3 mg/l TP) or other state-determined concentrations. Concentrations could be determined based on a range of WWTP design flows, for example:
  - 0.1 to < 0.4 MGD could receive 8 mg/l TN
  - <0.1 MGD could receive default of 18 mg/l TN

2. For nonsignificant industrial facilities:
   - Utilize SIC Codes to estimate loads expected from different industrial sectors.
   - Make an assumption that the ratio of loads between the significant industrial and municipal facilities is equal to the ratio of loads between the nonsignificant industrial and municipal facilities. Bay jurisdictions should have information for the significant industrial and municipal facilities, as well as the nonsignificant municipal facilities as determined above.
3. For nonsignificant municipal or industrial facilities:
   - Identify aggregate target load for nonsignificant facilities in areas draining to each of the segments of the Chesapeake Bay and its tidal tributaries based on data provided for the Phase 5.3 Watershed Model calibration.
   - Aggregate loads for the nonsignificant industrial facilities would be available to allocate to individual facilities as their permits come up for renewal. For facilities where a Bay jurisdiction determines no load reduction is needed, EPA would expect the WIP to require some form of permit monitoring to verify actual loads. For facilities where the Bay jurisdiction determines that load reductions are required, EPA expects the Phase I WIP to identify permit limits that reflect the reduction and approximate dates when these reductions would occur. In either case, the permit record (fact sheet, statement of basis) would identify the portion of the aggregate load being assumed for the individual facility.
   - When the aggregate target load and wasteload allocation runs out, the Bay jurisdiction must offset all additional nutrient and sediment loads from nonsignificant wastewater treatment plants as permits are issued or renewed.

Based on the aggregate loadings and other assumptions, EPA expects Bay jurisdictions to identify the nitrogen, phosphorus and (as applicable) sediment concentrations that would be required to meet interim and final target loads. EPA expects the Phase I WIPs to include enough information to inform new or renewed permits. EPA also expects the Bay jurisdictions to identify an accounting and monitoring program which will assure that an aggregate load is not exceeded as permits are reissued. If Bay jurisdictions cannot identify an accounting and monitoring program, or a date by which such a program would be available, EPA may assume that no nutrient and sediment controls are required as part of permit conditions and will establish aggregate and gross wasteload allocations for existing nonsignificant facilities accordingly.

NPDES Permitting Minimum Requirements for Incorporating TMDL WLAs

In general, all NPDES permits must demonstrate how effluent limits in the permit are consistent with the assumptions and requirements of the TMDL wasteload allocation.

Compliance Schedules

If a Bay jurisdiction's regulations allow for the use of compliance schedules and a discharger cannot immediately comply with the final WQBELs on the effective date of the NPDES permit, the permit may contain a compliance schedule in accordance with 40 CFR 122.47. EPA expects Bay jurisdictions to

indicate in the WIP and the permit the date by which each permitted significant facility will come into compliance with WIP target loads and, therefore, TMDL allocations. If Bay jurisdictions issue permits with compliance schedules greater than one year, EPA expects the schedule to include interim milestones and interim numeric limits.

Permit Reissuance

EPA expects Bay jurisdictions to identify when permits for significant facilities will come up for renewal. If a current permit backlog exists or the number of permit renewals in future years exceeds current renewals, Bay jurisdictions should identify proposed steps they might take to ensure that permits are reissued promptly upon expiration.

Use of Watershed Permit

Bay jurisdictions may consider the use of watershed or general permits to implement NPDES requirements for point sources. A watershed permit might identify individual loads for all nonsignificant municipal and/or industrial dischargers within a specific watershed. However, the watershed permit might also include an aggregate load that all facilities combined would have to meet.

Element 6: Tracking and Reporting Protocols

A. General Tracking and Reporting Standards

- EPA expects Bay jurisdictions to use ScenarioBuilder and Wastewater input deck templates to translate planned restoration activities and wastewater discharges into loads and load reductions by segment drainage, source and sector.
    - An input deck template and step-by-step instructions for submitting model input data for WIP development can be accessed at http://www.chesapeakebay.net/marylandbmp.aspx?menuitem=34449.
- EPA expects to rely on a combination of planned practices, programs and discharge controls that can achieve loading goals as assessed by the Chesapeake Bay Program Watershed Model.
    - It is acceptable for a Bay jurisdiction to identify a different set of practices, programs, and discharge reductions in the future when tracking progress as long as practices, programs and reductions meet water quality goals as confirmed by monitoring and Chesapeake Bay Program modeling analysis.
    - If the WIP relies on implementation approaching or beyond the Bay Program's E3 (Everything, Everywhere, by Everyone) level-of-effort, EPA expects the Bay jurisdiction to provide documentation supporting the achievement of such an extraordinary level of effort and/or the benefits of practices and programs not considered in the E3 scenario.
        - For WIP practices and programs whose definitions and quantified benefits have not been evaluated through the EPA-approved peer-review process, the WIP needs to identify a commitment to do so and provide placeholder documentation for the practice effectiveness for near-term model evaluation.[3]

[3] Members of the Chesapeake Bay Program Water Quality Goal Implementation Team approved the "Protocol for the Development, Review, and Approval of Loading and Effectiveness Estimates for Nutrient and Sediment

- If place-holder practice effectiveness used in the model evaluation of the WIP exceeds the eventual peer-reviewed effectiveness, jurisdictions need to commit to implement BMPs at a higher level to offset the shortfall or otherwise modify the WIP.

- Bay jurisdictions and EPA need to differentiate between target loads for point sources and nonpoint sources so that EPA can establish wasteload and load allocations in the Bay TMDL. See Appendices 1 and 2 for options on how Bay jurisdictions could distribute these loads.

Tracking and reporting questions related to future assessments of progress

- Who is responsible for collecting, reporting and verifying nutrient and sediment controls? Describe the system or database for tracking these practices.
- What are procedures for tracking and verifying that regulatory, contracted and voluntary practices are properly designed, installed and maintained over the lifespan of the practice according to state/USDA practice standards?
  - Include who is responsible, types of verification (eg, third party validation), frequency of inspections, percent of sites inspected, penalties for improper installation and/or maintenance and funding and staff levels for inspection/verification.
- Does progress reporting only include practices and programs that follow EPA-approved definitions of BMPs used in Scenario Builder and the Chesapeake Bay Program Watershed Model Phase 5.3?
  - If progress reporting includes practices that do not follow EPA-approved BMP criteria, there needs to be documentation of the practice effectiveness and level of implementation.
  - For practices that do not follow criteria for design, installation, maintenance and EPA-approved definitions, EPA expects the Bay jurisdiction to commit in its WIP to go through the EPA-approved approval protocol for nutrient and sediment controls.
- What are procedures for ensuring practices reported as "new" did not previously exist?
- How does the tracking and reporting system protect against double-counting controls?
- Does the nonpoint source practice and program implementation data include a practice/credit life? What is the process for removing practices from the tracking systems once they have expired, are out of date, are not functioning as designed, or no longer exist?
- Is the tracking and reporting system transparent, accessible and compatible with EPA decision support tools?
  - Does the tracking and reporting system use NEIEN (National Environmental Information Exchange Network) for the exchange of all nonpoint source BMP implementation data with EPA?
  - If not, demonstrate that the tracking and reporting system is compatible with the EPA decision support system.
- When would changes to existing collection, reporting and verification procedures occur? Provide specific milestones and dates.

B. Stormwater

- Do you have unified report forms to be used for all permittees?
  - If so, please provide the form(s).

Controls in the Chesapeake Bay Watershed Model" on March 15, 2010. New York abstained from this approval. The protocol will be available at <http://www.chesapeakebay.net/marylandbmp.aspx?menuitem=34449>.

- If not, how is consistent reporting from permitted sources ensured?

C. Accounting for Growth

- Will the permit and/or the contractual agreement of the offset receiver establish an annual (or other) certification requirement by the receiver, jurisdiction, or a 3rd-party evaluator that the offset is real and provides room under the TMDL cap for the new or increased discharge? Is this certification reported annually to the permitting authority and/or EPA? If so, when will this capacity exist?
- Will the jurisdiction's tracking system document offset generation and consumption and as well as progress toward meeting wasteload and load allocations? When will this capacity exist?

Element 7: Contingencies for Slow or Incomplete Implementation

- How will loads be achieved if delays in adoption of new or revised legislation, regulations, local ordinances and/or permit issuance or renewals occur?
- If participation rates with voluntary, incentive-based programs are not achieved, what is the contingency plan?
- If compliance rates with regulatory programs are not achieved, what is the contingency plan?
- How will changes in land use, development rates and voluntary participation influence load reductions?

Element 8: Appendix with Detailed Targets and Schedule

- Are Bay jurisdictions using the input deck templates referenced in Element 6 and available at http://www.chesapeakebay.net/marylandbmp.aspx?menuitem=34449? If so, EPA will use models to determine nutrient and sediment loads by source, sector and area draining to each tidal segment.
- Are the target loads for individual and aggregate sources and sectors reasonable and realistic?
- Is there adequate information by drainage area to each segment of the tidal Bay for EPA to establish wasteload and load allocations?
    - As stated in the EPA November 4, 2009 letter, EPA will only establish a gross wasteload allocation in the non-tidal states if WIPs contain enough detail to inform individual permits for sources within the wasteload allocation. Future permits will then need to be consistent with the assumptions and requirements of those target loads and wasteload allocations, even if wasteload allocations are aggregate or gross. If the WIP does not include enough information for a permit writer to calculate an effluent limit or include certain permit conditions, EPA will consider whether to establish individual rather than gross or aggregate wasteload allocations
- Does the Bay jurisdiction indicate how nutrient and sediment loads, by major basin, are expected to decrease over time so that EPA can assess future 2-year milestones?
- Are target loads consistent with the load reductions that would occur as a result of current and future permit and contract conditions, as described in Elements 2-7?

APPENDIX 1

DISTRIBUTING LOADS FROM CONCENTRATED ANIMAL FEEDING OPERATIONS AMONG POINT AND NONPOINT SOURCES

EPA will consider the distribution of point and nonpoint sources from concentrated animal feeding operations (CAFOs) subject to federal NPDES regulations when it establishes wasteload allocations for point sources and load allocations for nonpoint sources.

Under federal regulations, NPDES permits for CAFOs must require CAFOs to implement the terms of a site-specific nutrient management plan (NMP), that includes a number of critical minimum elements as required by 40 CFR 122.42(e)(1). These requirements limit nutrient loads from the production area as well as from the land application area, where manure/litter and process wastewater must be applied in accordance with site specific practices to ensure that nutrients in the manure will be utilized appropriately. NPDES permits for all CAFOs must include technology-based effluent limits in accordance with 40 C.F.R. 122.44. Permitted Large CAFOs that land-apply manure, litter or process wastewater, must comply with technology-based effluent limitations for land application per the effluent limitations guidelines (ELG) at 40 C.F.R. 412 Subparts C and D. Unpermitted Large CAFOs may not have any discharges except for "agricultural stormwater discharges" from the land application area.

State technical standards are critical to the establishment of the technology-based effluent limits in NPDES permits of Large CAFOs, and as applied to each permitted CAFO, will determine the "agricultural stormwater discharges" from that CAFO's land application areas. "Agricultural stormwater discharges" are the precipitation-related discharges from CAFO land application areas where the CAFO land applies in accordance with nutrient management practices "that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater" applied to the land – *i.e.*, for permitted CAFOs, the terms of a nutrient management plan concerning land application. 40 CFR 122.23(e)(1).

"Agricultural stormwater discharges" are nonpoint source discharges and thus not subject to NPDES permitting requirements. Therefore, water quality-based effluent limitations (WQBELS) are not applicable to agricultural stormwater discharges. (See 2008 CAFO rule preamble at 73 Fed. Reg. 70418, 70458 (Nov. 20, 2008)). It is expected that there will be some runoff of precipitation–related discharges from the land application portion of CAFOs that are in compliance with their NPDES permits. EPA would establish loads from the land application portion of CAFOs that are in compliance with their NPDES permits as load allocations in the Chesapeake Bay TMDL.

There is no agriculture stormwater exemption that applies to a CAFO's production area. Therefore, states should present loads from CAFO production areas as point source discharges, and EPA would establish these loads as wasteload allocations in the Chesapeake Bay TMDL .

The Chesapeake Bay Program Watershed Model estimates nutrient and sediment loads associated with the production area of animal feeding operations using, in part, information on 1) the number of operations and associated type of animals in each county based on USDA NASS data; and 2) levels of animal waste management reported by state agencies. Therefore, Bay jurisdictions may complete the following steps to estimate the loads associated with CAFOs and distribute these loads among point sources and nonpoint sources:

1. Identify the number of animals in each county that are confined by CAFOs, distinguishing between those with NPDES permits and those without NPDES permits. Bay jurisdictions can estimate this by:
    a. Providing EPA with the number and location of CAFOs and the number and type of animals confined by each CAFO on an annual inventory basis; or
    b. Estimating the percent of animals, by type, and operations within each county that are associated with CAFOs.
2. Indicate whether there are animals that are confined by CAFOs which currently do not have NPDES permits but are expected to have NPDES permits by 2017 and 2025.
3. Provide the nutrient management plan requirements, or any other nutrient and sediment controls, required by CAFOs in that state, distinguishing between those with NPDES permits and those without NPDES permits. Bay jurisdictions should indicate if there are any other differences in the nutrient and sediment controls applied among subsets of CAFOs.
    a. EPA may use this information to estimate current loads from CAFO production areas (point source) and land application (nonpoint source).
4. Identify any additional nutrient management plan requirements, or any other nutrient and sediment controls, that will be required by CAFOs in that state by 2017 and 2025, and indicate if these additional controls would only apply to a subset of CAFOs.
    a. EPA may use this information to estimate interim (2017) and final (2025) nutrient and sediment loads from CAFO production areas (will be included in the wasteload allocations) and land application (will be included in the load allocations).
5. The states and EPA will assume that all other loads from animal and crop agriculture are nonpoint sources, and EPA will include them in the load allocation.

Bay jurisdictions may submit alternative methods for distributing agricultural nutrient and sediment loads among point sources and nonpoint sources for EPA's consideration when establishing wasteload and load allocations in the Chesapeake Bay TMDL.

APPENDIX 2

OPTIONS FOR DISTRIBUTING STORMWATER TARGET LOADS AMONG POINT AND NONPOINT SOURCES

EPA has stated that "NPDES-regulated storm water discharges must be addressed by the wasteload allocation" of a TMDL. Furthermore, stormwater discharges that come from point sources but are "not currently subject to NPDES regulation" may be addressed by the wasteload or the load allocation.[4] Finally, unregulated nonpoint source runoff is accounted for in a TMDL load allocation.

Appendix 2 provides options for Bay jurisdictions on how they might distribute interim and final nutrient and sediment target loads from stormwater among point sources and nonpoint sources in their WIPs so that EPA has sufficient information to establish wasteload and load allocations in the Chesapeake Bay TMDL. Bay jurisdictions may suggest other options or methods for EPA's consideration.

For Stormwater Discharges Subject to MS4 Permit (WLA):

1. Identify current geographic boundary of Phase I and Phase II MS4 service areas.[5]
    a. Option 1: Bay jurisdictions provide map of Phase I and Phase II MS4 service areas including facilities like DOT roads and highways, state and federal institutions anywhere in Bay jurisdiction boundaries (construction and industrial permits addressed later in this document). EPA will use area-weighted averages to assume all loads from all land uses within the service area are part of the individual, aggregate or gross wasteload allocation.
    b. Option 2: EPA will use area-weighted averages to estimate current loads from urban land uses[6] within MS4 jurisdictions.[7] Those loads will be included in the individual or aggregate MS4 target load, which will be included in the aggregate wasteload allocation for all sources regulated by MS4 permits or gross wasteload allocation. EPA will assume the boundaries for Phase I and II MS4 jurisdictions illustrated in Figure 1 unless we receive alternative information from the Bay jurisdictions.
2. Bay jurisdictions should subtract any acres that are subject to industrial stormwater permits but are within MS4 jurisdictions from the estimated acres that are subject to MS4 permits to avoid double-counting.
3. Identify additional nutrient and sediment controls expected or proposed to be required under Phase I and II MS4 permits by 2017 and 2025, including expected or possible implementation rates on urban acres. EPA will calculate the resulting interim and final target loads from stormwater discharges regulated under a MS4 permit, which EPA can use to establish individual or aggregate wasteload allocations.

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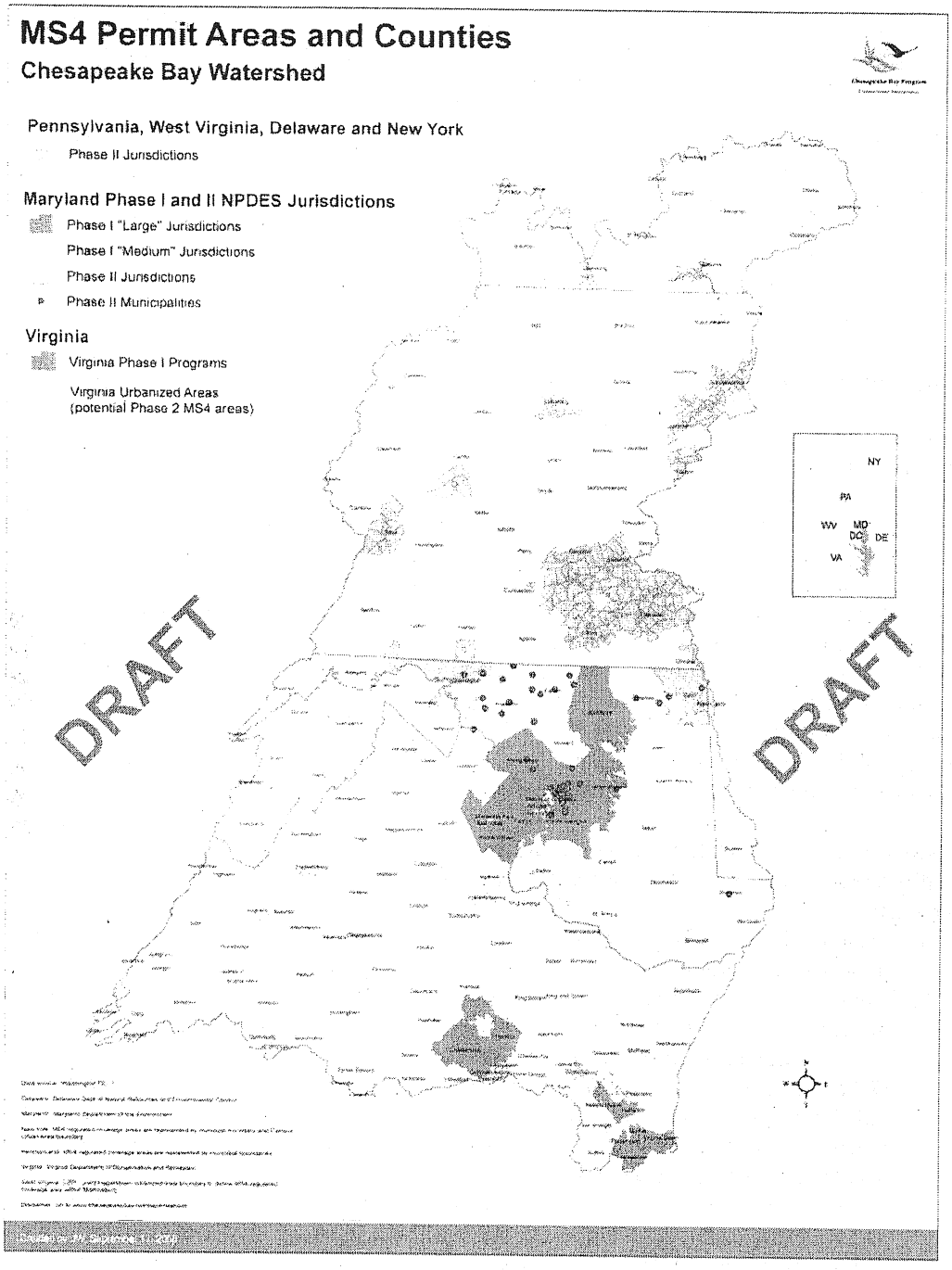
[4] U.S. Environmental Protection Agency (2002). Memorandum: *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs.*

[5] MS4 service areas correspond to the geographic area served by an MS4 system. In contrast, an MS4 jurisdiction refers to the entire jurisdiction that has been designated a Phase I or II MS4. There may be geographic areas within a MS4 jurisdiction that are not serviced by an MS4 system and are thus outside the MS4 service area.

[6] Urban land uses within the Chesapeake Bay Program Watershed Model Phase 5.3 include: high intensity impervious urban, low intensity impervious urban, high intensity pervious urban, and low intensity pervious urban. States should identify whether they want to include stormwater loads resulting from construction activities on greater than one acre of land within a MS4 jurisdictions as part of the aggregate MS4 wasteload allocation or as part of the aggregate construction wasteload allocation. If they choose to include it within the MS4 wasteload allocation, the "construction" land use should also be included as an urban land use.

[7] MS4 service areas correspond to the geographic area served by an MS4 system. In contrast, an MS4 jurisdiction refers to the entire jurisdiction that has been designated a Phase I or II MS4. There may be geographic areas within a MS4 jurisdiction that are not serviced by an MS4 system and are thus outside the MS4 service area.

Figure 1: Phase 1 and 2 MS4 Jurisdictions



Source: Data submitted by states and DC to EPA (CBPO), September 2008

If Bay jurisdictions wish to identify target loads for stormwater discharges subject to future Phase I and Phase II MS4 permits, they may follow these steps:

1. Identify potential future Phase I and/or Phase II MS4 service areas.

2. 2 options:
    - Option 1: Calculate target loads based on current nonpoint source loads from those areas; EPA will establish this target load as a wasteload allocation for future sources and will assume offsets consistent with the provisions in Element 3 for anything more.
    - Option 2: Establish target loads for future Phase I and II MS4 service areas of 0 (EPA will establish wasteload allocation of 0 for future discharges). To support issuance of a future MS4 permit, EPA will expect the future Phase I or II MS4 jurisdiction to offset the net change compared to existing load allocation for this area consistent with provisions in Element 3. This change may be a decrease in nutrient and sediment loads based on the existing and future land use and management practices. Nutrient and sediment loads subject to offset will be: Load from MS4 Service Area to meet WLA – Load from Area to Meet LA, including reductions that would occur due to implementing NPS controls identified in the WIP).

Proposed steps for Bay Jurisdictions to Identify Stormwater Discharges Regulated by Industrial Stormwater (WLA):

1. Bay jurisdictions provide number of industrial stormwater permits/county.
2. Bay jurisdictions estimate number of urban acres[8] that are regulated by industrial stormwater permits in each county.
    a. If Bay jurisdictions cannot provide an estimate, EPA will use a regional average number of urban acres included within industrial stormwater permits to estimate the number of urban acres regulated by industrial stormwater permits in each county.
3. EPA will use the number of urban land use acres in each county calculated under steps 1 and 2 to estimate current loads from stormwater discharges regulated by industrial stormwater permits.
4. Identify additional controls to reduce nutrients and/or sediment, including implementation rate of additional controls that would be required by the permitting authority on urban acres regulated by industrial stormwater permits by 2017 and 2025. EPA will calculate the resulting aggregate interim and final target loads for industrial stormwater, which EPA can use to establish individual, aggregate or gross wasteload allocations.

For Stormwater Subject to Construction General Permits (WLA):

1. Identify acres subject to construction general permits in each county. 3 options (individually or in combination).
    a. Option 1: Bay jurisdictions identify number acres/county. Could be based on existing or projected estimates of acres subject to construction general permits annually.
    b. Option 2: Use most recent Phase 5.3 Watershed Model progress scenario to identify acres of "construction" land use in each tidal segment drainage area and the nitrogen, phosphorus, and sediment loads from these acres delivered to the Bay.
    c. Option 3: Establish target loads for future projects subject to Construction General Permit of 0. To support issuance of future Construction General Permits, EPA would expect future projects permitted under the Construction General Permit to offset any net increase over the total existing load allocation for the areas to be developed consistent with provisions in Element 3. Development activities may result in a net decrease in nutrient and sediment loads. Loads subject to offset will be: WLA for total area covered by the Construction General Permit, including post-construction loads, minus LA for total area being developed under the Construction General Permit, including reductions that would occur due to implementing NPS controls identified in the WIP.

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[8] Urban land uses within the Chesapeake Bay Program Watershed Model Phase 5.3 include: high intensity impervious urban, low intensity impervious urban, high intensity pervious urban, and low intensity pervious urban.

2. Bay jurisdictions should identify whether they want to include stormwater loads resulting from construction activities on greater than one acre of land within a MS4 jurisdictions as part of the individual or aggregate MS4 target loads or as part of the aggregate construction target load.
3. Identify additional nutrient and sediment controls, including the implementation rates of additional controls that would be required by the permitting authority in the future on land disturbance regulated by construction general permits. EPA can calculate the resulting aggregate target load from stormwater subject to construction general permit, which EPA can use to establish aggregate or gross wasteload allocations.

For Discharges Associated with Resource Extraction Subject to NPDES Permits (WLA):

1. Identify acres with resource extraction that are subject to NPDES permits in each county.
    a. Option 1: States/D.C. identify number of acres/per permit.
    b. Option 2: Use most recent Phase 5.3 Watershed Model progress scenario to identify acres of "extractive" land use in each tidal segment drainage area and the nutrient and sediment loads from these acres delivered to the Bay.
    c. Option 3: States/D.C. identify percent of "extractive" land use in each tidal segment that is subject to NPDES permits.
2. Identify additional nutrient and sediment controls, including implementation rates of additional controls, that would be required by the permitting authority in the future on acres subject to permits for resource extraction. EPA can calculate the resulting aggregate target load from resource extraction activities, which EPA can use to establish individual, aggregate or gross wasteload allocations. If states/D.C. do not expect to require additional nutrient and sediment controls beyond existing permit conditions, EPA will consider the existing loads when establishing wasteload allocations.

For Nonpoint Source Stormwater (LA):

Note that EPA can calculate steps 1 – 3 if Bay jurisdictions calculate all point sources of stormwater

1. Identify all remaining loads from urban land uses that are not classified as point sources based on the methods above.[9]
2. Use most recent Phase 5.3 Watershed Model progress scenario to identify the nutrient and sediment loads from these acres delivered to the Bay. EPA can calculate this if Bay jurisdictions use appropriate input deck.
3. Identify types and implementation rates of different BMPs that are applied to these urban land use acres (eg, percentage of urban land use acres with BMPs) based on most recent Phase 5.3 Watershed Model progress scenario. EPA can calculate this if Bay jurisdictions use appropriate input deck template; note that these implementation rates are used to derived delivered nutrient and sediment estimates described in Step 1.
4. Identify implementation rates of additional nutrient and sediment controls that would be implemented in the future by the state, DC, local governments or other partners on these urban acres (eg, percent of urban acres with additional nutrient and sediment controls in place). EPA can calculate the resulting target load if Bay jurisdictions use appropriate input deck template.

[9] Urban land uses within the Chesapeake Bay Program Watershed Model Phase 5.3 include: high intensity impervious urban, low intensity impervious urban, high intensity pervious urban, and low intensity pervious urban.