

# Certification and Verification of Offset and Trading Credits in the Chesapeake Bay Watershed

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EPA Technical Memorandum

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Prepared by EPA Region 3

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## ABBREVIATIONS AND ACRONYMS

BMP .....	Best Management Practice
CWA .....	Clean Water Act
EPA .....	United States Environmental Protection Agency
TMDL .....	Total Maximum Daily Load

## SCOPE

This technical memorandum presents information for the Bay jurisdictions<sup>1</sup> to consider when developing certification and verification measures to incorporate into their offset and trading programs, elaborating on the expectations set out in Section 10 and Appendix S of the 2010 Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment (Bay TMDL).<sup>2</sup> This technical memorandum can be used as a guide by the Bay jurisdictions but is not a rule or regulation, is not official EPA guidance, and does not establish any binding legal requirements. This technical memorandum is only applicable in the Chesapeake Bay watershed and may be revised in the future. Nothing in this technical memorandum is intended to prevent the Bay jurisdictions from incorporating additional measures for certification and/or verification beyond those discussed herein.

## INTRODUCTION

The Bay TMDL assumes that the Bay jurisdictions will offset all new or increased loads (see TMDL at section 10.1) and identifies trading as a tool that may be used to implement the Bay TMDL (see TMDL at section 10.2). EPA also assumes that any Bay-related offset and trading programs will be consistent with the Clean Water Act,<sup>3</sup> its implementing regulations, EPA's 2003 Water Quality Trading Policy,<sup>4</sup> and EPA's 2007 Water Quality Trading Toolkit for NPDES Permit Writers.<sup>5</sup>

This technical memorandum defines certification as the process in which the proposed credit generating project or practices' pollutant reductions and associated credits (i.e., pounds) are quantified and officially declared to the public as potentially valid credits upon project or practice implementation, provided that the credit generating projects or practices are shown through monitoring, inspection, and reporting to be performing as intended<sup>6</sup>.

This technical memorandum defines verification as ensuring that a credit generating project or practice is performing as intended (i.e., to the expectation of its certification) via a system of monitoring, inspection, and reporting. The term "verification" as used in this document does not refer to a program audit, which is defined as an overall programmatic review of the trading or offset program; instead, the term "verification" as used in this document pertains to a review of individual credit generating projects or practices, including review of documentation to confirm conformance with program protocols and

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<sup>1</sup> The Bay jurisdictions are: Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia.

<sup>2</sup> Full text of the 2010 Chesapeake Bay TMDL is available at <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>

<sup>3</sup> Clean Water Act, 33 U.S.C. §§ 1251 et seq.

<sup>4</sup> <http://water.epa.gov/type/watersheds/trading/tradingbasics.cfm>

<sup>5</sup> EPA, "Water Quality Trading Toolkit for Permit Writers," updated June 2009. Available online at <http://water.epa.gov/type/watersheds/trading/WQTToolkit.cfm>

<sup>6</sup> A credit generating project or practice is considered to be "performing as intended" after it has been evaluated and determined to be installed, performing and maintained as designed throughout the entire compliance period.

standards; technical review that includes confirming the modeling/quantification of credits; and confirmation of project implementation and performance.

If a Bay jurisdiction has demonstrated that it does not need a formal offset or trading program due to the lack of sector growth<sup>7</sup>, credits may be generated on a case by case basis and would then be certified and verified on a case by case basis.

## CERTIFICATION OF CREDIT GENERATING PROJECTS AND PRACTICES

EPA expects the Bay jurisdictions to ensure that credit generating projects and practices used in offset and trading programs are certified prior to allowing the resulting credits to be used. EPA assumes that the Bay jurisdictions will articulate whether third parties may certify and verify credit generating projects and practices and whether the Bay jurisdictions rely on information obtained from a third party when determining whether to certify a credit generating project or practice.

EPA expects Bay jurisdictions to designate the process, the documentation to be used, and the identity of the third party (if any) that obtained the information used by the Bay jurisdiction in the certification process. Certification is expected to include the administrative review of documentation. The certification process and documentation is expected to demonstrate all of the following:

- The location where the credit generating project or practice will be implemented.
- That the credit generating project or practice is properly designed so as to meet the pollution reduction levels for which the credit is to be certified and to meet accepted industry standards, including operation and maintenance, throughout the applicable certification period.
- A detailed description of how the credits will be generated by the credit generating project or practice, including but not limited to the following:
  1. All credit calculations, demonstration that baseline is met and inclusive of additionally, assumptions, plans, and photos, as applicable.
  2. A map illustrating the locations of the proposed credit generating project or practice.
  3. Details on the timing of credits, such as the timing of credit generation and delivery and the time frame for sale and use of credits.
  4. Identification of applicable water quality standards and any applicable impairment listings and TMDLs for the receiving stream segment nearest the location of the proposed credit generating project or practice.

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<sup>7</sup> The Bay jurisdictions' sector growth demonstrations can be viewed at: <http://www.epa.gov/reg3wapd/tmdl/BayTradingandOffsetActivities>

5. A description of how failure of the credit generating project or practice would be managed.
  6. As applicable, evidence of preservation and/or conservation easements on lands where the credit generating project or practice is to be implemented.
  7. The necessary contact information of the participants involved in the credit generating project or practice.
  8. The qualifications of the person(s) who completed the calculations or otherwise contributed to the technical merits of the certification.
- That the calculation process is consistent with the process described in Appendix S and Components of Credit Calculation Technical Memorandum and that the baseline calculation is still valid.
  - That the implementation of the credit generating project or practice will be verified as described in a verification plan that meets the expectations of the verification section below.

EPA assumes that the lifetime of a credit, once generated, will be limited to one year or no longer than the NPDES compliance period, whichever is shorter. Currently, all Chesapeake Bay jurisdictions with offset or trading programs allow credits to last for one full year. The definition of a year, including the starting point, should be specified by each Bay jurisdiction.

In contrast, the lifetime of certification for projects or practices generating such credits could be up to five years, consistent with the five year NPDES permit cycle. Certifications could be permanent or perpetual in the following situations:

- If credits are generated from converting on-site septic systems to a permanent hookup to a wastewater treatment plant.
- If credits are generated from a change to the landscape that is permanently protected by an easement or other legal instrument that conveys with the land.

Following expiration of the certification, the new certification is expected to be based upon the credit calculation methodology accepted at that time, which may differ from the earlier methodology used during the prior certification period. If credits are used for NPDES compliance purposes, the credit calculation should be revised to ensure that the correct amount of credits is purchased for the next compliance period, as re-certification of credits may have resulted in a change in valuation.

When certifying credit generating projects and practices, Bay jurisdictions are expected to consider whether the credits are verifiable. If a project is not verifiable, then a certification should not be issued. Certification may also take into account the prior compliance of credit generators with local, state, and federal rules, regulations, and policies.

## VERIFICATION OF CREDIT GENERATING PROJECTS AND PRACTICES

Verification ensures that the credit generating projects and practices are performing as intended via monitoring, inspection, reporting, or some other mechanism. EPA expects the Bay jurisdictions to have a comprehensive verification system in place through which the credit generating projects and practices are routinely evaluated to ensure that they are installed, performing, and maintained as designed throughout the entire certification life. The verification system is expected to articulate and document: the frequency of on-site or other monitoring, the methods used, and the verifier that EPA or the Bay jurisdiction has determined to possess the necessary training, skill and experience to monitor and inspect credit generating projects and practices and the associated documentation.

EPA has the following expectations and assumptions regarding verification:

- Verification is expected to be performed by the verifier that EPA or the Bay jurisdiction has determined to possess the necessary training, skill and experience to monitor and inspect credit generators.
- EPA expects verification to include a review of individual credit generating projects or practices; a review of documentation to confirm conformance with program protocols and standards; a technical review that includes confirming the modeling/quantification of credits; and confirmation of project implementation and performance.
- EPA expects verification to be consistent with the minimum Chesapeake Bay Program Partnership verification guidance as used for reporting BMPs for the Bay TMDL, as expressed in *Strengthening Verification of Best Management Practices Implemented in the Chesapeake Bay Watershed: A Basinwide Framework*, Appendix B: Source Sector and Habitat Specific BMP Verification Guidance.<sup>8</sup>
- EPA expects all credit generating projects and practices to be verified on an annual basis.
- On-site inspection of credit generating projects and practices should occur at a sufficient frequency so as to ensure the integrity of the verification system. For annual or seasonal credit generating projects or practices, any on-site inspection should be conducted during the months in which the load reductions are expected to occur.
- Verifiers should consider, at a minimum, factors related to the installation, effectiveness, and duration of the credit generating project or practice.
- Verification results are expected to be made publicly available and to remain public as consistent with any and all applicable state and federal document and/or record retention policies.

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<sup>8</sup> The document is available at the following link under BMP Verification Review Panel's Recommendations. [www.chesapeakebay.net/bmpverification](http://www.chesapeakebay.net/bmpverification).

- EPA expects the Bay jurisdictions to implement a system that provides a high degree of certainty that a credit generating project or practice is installed, performing, and maintained as designed throughout the entire certification life. Such systems are expected to provide for inspection of the installation and provide assurance that the practice is performing as designed.
- EPA recommends that an initial verification occur prior to the credits being sold to reduce risk for the credit buyer and that subsequent verifications occur during the certification life of the project or practice.

These expectations are discussed in greater detail in the sections below.

#### EXPECTATIONS FOR VERIFIERS

EPA expects verification to be performed by a verifier that EPA or the Bay jurisdiction has determined to possess the necessary training, skill and experience to monitor and inspect credit generators.

Verifiers are expected to ensure that projects and practices meet the definitions used in the Bay jurisdiction's offset or trading program. Verifiers are expected to have an up-to-date working knowledge of the projects and practices used in existing offset and trading programs and the Chesapeake Bay Program partnership's BMP definitions of those projects and practices. Verifiers of agricultural projects or practices should also be knowledgeable of typical nutrient application rates and other agricultural practices recommended and utilized by the agricultural community. Verifiers of credit generating projects or practices in urbanized areas should have training in the identification and verification of implemented engineered stormwater designs.

Verifiers are expected to be trained on how to identify and avoid actual and apparent conflicts of interest. Verifiers are expected to provide independent assessments, which is possible only in the absence of conflicts of interest and in the absence of the appearance of conflicts of interest.

#### ASSESSMENT CRITERIA FOR CREDIT GENERATING PROJECTS AND PRACTICES

During site visits, verifiers are expected to assess whether the credit generating project or practice is installed according to design specifications, meets the criteria used in the credit calculation methodology and confirm that the baseline conditions are still being met.

Verifiers are expected to confirm that the projects and practices are designed, operated, and maintained to ensure effectiveness during the project life. For example, it is not sufficient to verify that a project or practice looks adequate for the upcoming 12 month period (i.e., credit life), if there are structural problems that suggest that it might fail in the near future.



Verifiers are also expected to confirm that credit generating projects and practices are installed, performing, and maintained as designed throughout the entire certification life to ensure that pollution reduction levels for which the credit was certified are met.

EPA recommends that the Bay jurisdictions consider developing standardized worksheets or similar tools that may help verifiers to document what they have observed and their assessment of the projects and or practices.

## PUBLIC ACCOUNTABILITY

EPA expects all information concerning certification and verification of credit generating projects and practices to be readily available to the public beginning from the time the final credit generating project or practice is proposed to be certified and to remain public on a schedule as consistent with any and all applicable state and federal document and/or record retention policies. All aspects of the program should be publicly available, including the location credit generator, location of the proposed and/or implemented credit generating project or practice, type and number of credits generated for either offset or trade purposes, and any other information necessary for the public to know the credits are valid such as photos of project, installation dates, aerial maps showing the location of credit generating project or practice, and documentation of easements, as applicable. Where necessary, information about the credits is expected to be included in an NPDES permit, its fact sheet, or its administrative record.

EPA expects the methods for generating, calculating, and purchasing credits to be clearly articulated and readily available to the public. Likewise, credit sellers and buyers should have a means of open and regular communication with Bay jurisdictions' offsets and trading programs.

EPA expects each Bay jurisdiction to provide a publicly accessible registry that records and tracks certified and verified credits. All credits sold should have a unique identification number that is traceable to the buyer and seller.

## SUMMARY OF EXPECTATIONS

EPA's expectations for certification and verification in offset and trading programs for the Chesapeake Bay jurisdictions are summarized below. Bay jurisdictions may include additional measures beyond those listed here:

### Certification Summary

- EPA expects the Bay jurisdictions to certify credit generating projects and practices used in offset and trading programs.
- Information to be gathered during the verification process is expected to be readily available to the public as part of the certification documentation to assure the public that credits are in compliance with all appropriate regulations and policies.

- EPA expects that for most projects and practices, a credit, once generated, will be valid for one year or no longer than the NPDES compliance period, whichever is shorter.
- In general, certification of credit generating projects or practices could be valid up to five years, consistent with the NPDES permit cycle. If credits are generated from converting on-site septics to a permanent hookup to a wastewater treatment plant or from a change to the landscape that is permanently protected by an easement or other legal instrument that conveys with the land, then the credit certification may be permanent or perpetual.
- Bay jurisdictions should define what constitutes the annual term.
- When certifying credit generating projects or practices, Bay jurisdictions are expected to consider whether the credit generating projects or practices would be verifiable. If a project is not verifiable, then a certification should not be issued. Certification may take into account the prior compliance of credit producers with local, state, and federal rules, regulations, and policies.
- The certification process is expected to ensure the credit generating project or practice will meet acceptable standards for construction and performance, including operation and maintenance, throughout the applicable certification period, including:
  1. All credit calculations, demonstration that baseline is met and inclusive of additionally, assumptions, plans, and photos, as applicable.
  2. A map illustrating the locations of the proposed credit generating project or practice.
  3. Details on the timing of credits, such as the timing of credit generation and delivery and the time frame for sale and use of credits.
  4. Identification of applicable water quality standards and any applicable impairment listings for the receiving stream segment nearest the location of the proposed credit generating project or practice.
  5. A description of how failure of the credit generating project or practice would be managed.
  6. Evidence of preservation and/or conservation easements on lands where the credit generating project or practice is to be implemented.
  7. The necessary contact information of the participants involved in the credit generating project or practice.
  8. The professional qualifications of the persons who completed the calculations or otherwise contributed to the technical merits of the certification.
- Certification results are expected to be made publicly available and to remain public on a schedule consistent with any and all state and federal document and/or record retention policies.

### **Verification Summary**

- EPA expects the Bay jurisdictions to have a comprehensive verification system in place before credits are used.

- EPA expects verification to be consistent with the minimum Chesapeake Bay Program Partnership verification guidance as used for reporting BMPs for the Bay TMDL, as expressed in *Strengthening Verification of Best Management Practices Implemented in the Chesapeake Bay Watershed: A Basinwide Framework*, Appendix B: Source Sector and Habitat Specific BMP Verification Guidance.
- EPA expects verification to include a review of individual credit generating projects or practices, a review of documentation to confirm conformance with program protocols and standards; a technical review that includes confirming the modeling/quantification of credits and lastly confirmation of project implementation and performance.
- For ongoing verification purposes, on-site inspection of credit generating projects or practices should occur at a sufficient frequency so as to ensure the integrity of the verification system.
- For annual or seasonal BMPs, verification by on-site inspection should be conducted during the months in which the load reductions are expected to occur.
- Verification is expected to be performed by a verifier that EPA or a Bay jurisdiction has determined to possess the necessary training, skill and experience satisfactory to monitor and inspect credit generators.
- Verifiers should be trained on how to identify and avoid actual and apparent conflicts of interest.
- Verifiers are expected to provide independent assessments, which is possible only in the absence of actual and apparent conflicts of interest.
- Verifiers are expected to have an up-to-date working knowledge of the credit generating projects or practices and to be trained in the Chesapeake Bay Program partnership's BMP definitions used in existing offset and trading programs.
- Verifiers are expected to consider factors related to the BMP installation, effectiveness, and duration.
- Verification results are expected to be made publicly available and to remain public on a schedule consistent with any and all state and federal document and/or record retention policies.