

**Standard Operating Procedure (SOP)<sup>1</sup> for Clean Water Program  
Chemical Additives  
SOP No. BPNPSM-PMT-030  
Final, November 9, 2012  
Revised, January 13, 2015  
Version 1.4**

This SOP describes the methods by which the Clean Water Program and Bureau of Point and Non-Point Source Management (BPNPSM) will conduct reviews of chemical additives. The term “chemical additive” means a chemical product (including products of disassociation and degradation, collectively “products”) introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. The term generally excludes chemicals used for neutralization of waste streams, the production of goods, and treatment of wastewater.

This SOP applies only to industrial waste facilities (authorization codes “MIIW1”, “MIIW2”, “MAIW1”, and “MAIW2”). This SOP is referred to within the SOP for “New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications” (BPNPSM-PMT-001).

This SOP has been developed to assure consistent and comprehensive implementation of regulatory requirements in typical scenarios. The recommended procedures in this SOP should be followed unless site-specific factors, in the opinion of the application manager, justify a deviation from the SOP. Site-specific factors that support deviation from the recommended procedures in this SOP should be documented in the fact sheet.

In preparing the fact sheet to describe the *basis* for any permit condition developed by the application manager, the application manager should reference the regulation that supports the specific requirement. In preparing the fact sheet to describe the *implementation procedure* through which the permit condition was developed, the application manager should reference the SOP where applicable. For example: “WET testing is required for this facility as per 40 CFR 122.21(j)(5). The WET dilution series was assigned consistent with the procedure described in Whole Effluent Toxicity (WET) SOP No. BPNPSM-PMT-031.”

## **I. Permit Application Reviews (Application Managers)**

The following procedures describe how application managers will review chemical additives during the permit application review phase.

### **A. Completeness Review.**

The application manager will review the Chemical Additives Section of the industrial waste permit application ([3850-PM-BPNPSM0008b](#)) for completeness. These instructions supplement the completeness review procedures contained in SOP No. BPNPSM-PMT-001. If no chemical additives are identified in Questions 2 and 3 of the Chemical Additives Section, it may be assumed that the applicant will not use chemical additives, and this SOP is not applicable.

1. Question 2 of Chemical Additives Section – Verify that all data requested are provided, including the additive name, outfall or IMP number receiving wastewater containing the additive, the purpose of the additive, the proposed usage frequency, the proposed maximum usage rate, and units. Also verify that

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<sup>1</sup> **DISCLAIMER:** The process and procedures outlined in this SOP are intended to supplement existing requirements. Nothing in the SOP shall affect regulatory requirements. The process, procedures and interpretations herein are not an adjudication or a regulation. There is no intent on the part of DEP to give the rules in this SOP that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

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the point of introduction of proposed chemical additives is identified on a line drawing or process flow diagram. If this section is not complete, consider any omissions a deficiency.

2. Question 3 of Chemical Additives Section – If the box for “On Approved List?” is checked for an additive, then a Chemical Additives Notification Form for the additive must be attached to the application unless the Notification Form was previously submitted. If the box for “Notification Form Previously Submitted?” is checked, the date the form was submitted should be provided by the applicant. The omission of Notification Form(s) as attachments to the application, or if previously submitted, the lack of submission dates on the application should be considered deficiencies.

**NOTE** – If the applicant previously submitted a Notification Form for an additive and the proposed maximum usage rate will increase, a new Notification Form is required.

If the “On Approved List?” box is not checked for an additive, it should not be considered a deficiency; however, the draft permit cover letter should notify the applicant that unless the additive is placed on the Approved List and the Chemical Additives Notification Form for the additive is submitted to supplement the application prior to DEP’s issuance of a final permit, use of the chemical additive following permit issuance would constitute non-compliance.

**B. Technical Review.**

1. Review any attached Chemical Additives Notification Form(s) to ensure the PENTOXSD modeling to determine water quality based effluent limits (WQBELs) and the calculations to determine the maximum safe usage rates are technically sound. If, in the opinion of the application manager, the analyses are not technically sound, the applicant should be notified of technical deficiencies.
2. If there is an analytical method available for measuring the (whole product) chemical additive, as indicated on the application, the application manager may consider the appropriateness of effluent limitations and/or monitoring of the additive at the outfall that receives wastewater containing the additive.

**NOTE** – While adherence to the maximum safe usage rate determined by the applicant and reported on the Chemical Additives Notification Form should generally not result in an exceedance of WQBELs, if the calculations to support the maximum safe usage rate are considered questionable or the application manager has another reasonable basis, establishment of limits and/or monitoring may be implemented if justified in the fact sheet.

3. Where an applicant requests in a permit renewal application the continuation of chemical additives and usage rates that have been previously approved in a permit or otherwise in writing during the permit term, a review by the application manager is generally unnecessary. However, if the approval of an additive was issued prior to 2008, the application manager may request the submission of a Chemical Additives Notification Form if the application manager is aware that the additive was approved at rates that were determined using an earlier approach for calculating aquatic life effect levels and those effect levels have now changed (as published on the Approved List). In 2008 DEP adopted the Great Lakes Tier II method for calculating aquatic life effect levels.

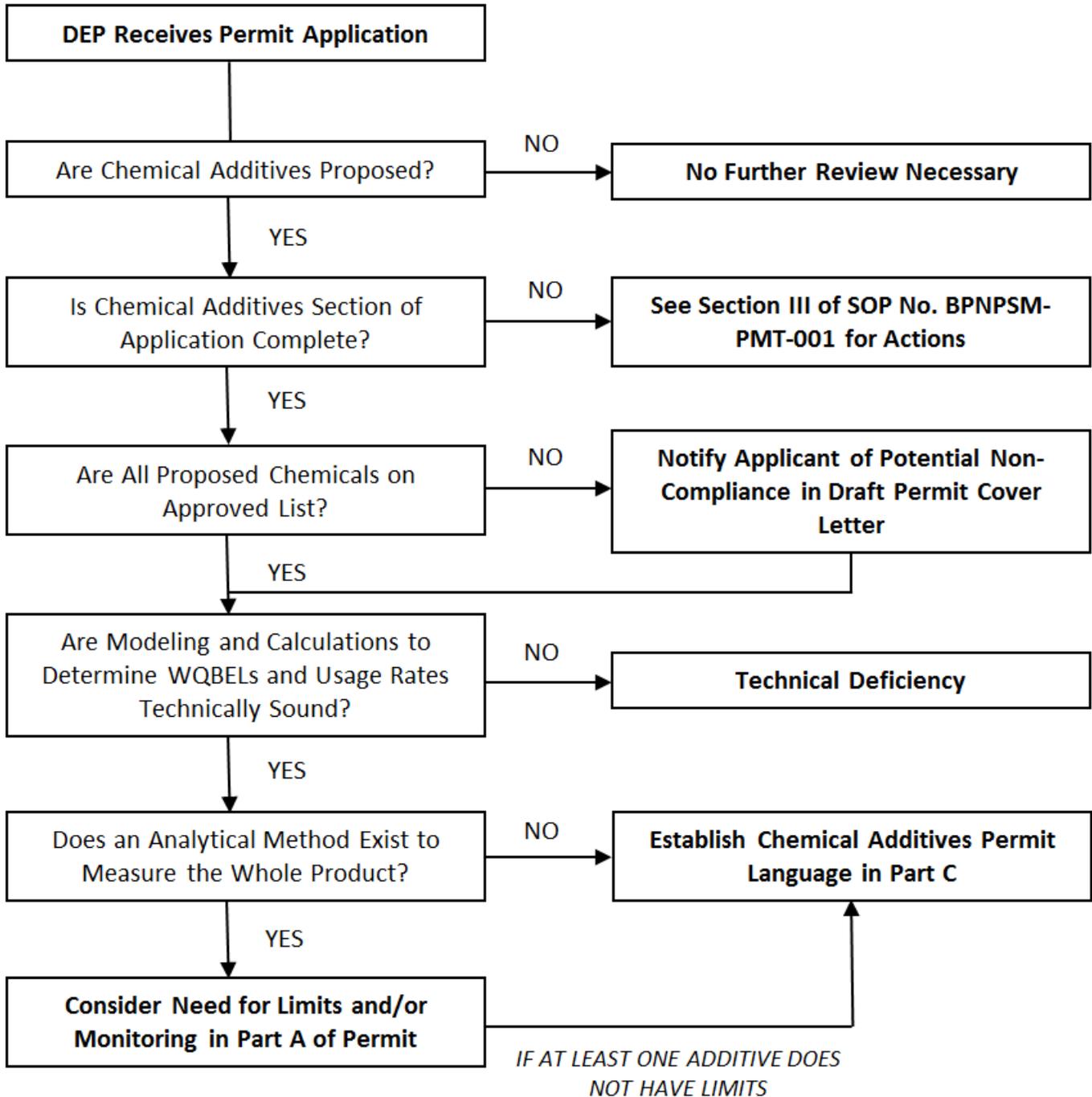
**C. Permit Development.**

1. Where chemical additives are proposed in the permit application, application managers will generally establish the language contained in **Attachment A** as a Part C permit condition (“Part C 118” in NMS), unless all chemical additives are controlled through effluent limitations in Part A of the permit.
2. In general, limitations on usage rates for chemical additives will not be specified in permits.

- Where a Part C condition for chemical additives is used in a permit, the application manager will generate, print and attach the “Chemical Additives Usage Form” (3800-FM-BPNPSM0439) to the permit when issued.

A summary of the procedures to be followed by permit writers with respect to the review of chemical additives in permit applications is presented in **Figure 1**.

**Figure 1: Permit Application Review Process for Chemical Additives**



## **II. Chemical Additive Reviews During the Permit Term (Application Managers or Biologists)**

If a request has been submitted to regional offices to approve new chemical additives that have not been previously approved or increased use of chemical additives that were previously approved, application managers or biologists will consider the permit language in effect, as follows:

- A. If the Part C permit language pre-dates this SOP (i.e., is not the language referred to in Section I C of this SOP), application managers or biologists will continue existing implementation procedures for reviewing and approving chemical additives.
- B. When a permit contains the Part C language referenced in Attachment A of this SOP, the permittee will submit the "New Chemical Additives Request Form" (3800-FM-BPNPSM0486) to DEP's Planning and Permitting Division in Central Office as instructed on the form. If this form is submitted to regional offices, the application manager or biologist will forward the form to Central Office.
- C. When a permit contains the Part C language referenced in Attachment A of this SOP, the permittee will submit the "Chemical Additives Notification Form" (3800-FM-BPNPSM0487) to regional offices. This form provides the regional office with notice that the permittee intends to use a chemical that is present on DEP's Approved List of Chemical Additives ("Approved List"). Application managers or biologists may, at their discretion, 1) review the form to verify accuracy with respect to calculations, 2) verify the chemical additive is on the Approved List, and 3) notify the permittee in writing or by phone if mistakes are discovered, and request the submission of a revised form.

## **III. New Chemical Additive Reviews (Central Office)**

Central Office will develop and maintain the Approved List on DEP's website. When the language in Attachment A is established in an NPDES permit, the permittee will be responsible for ensuring that the chemical additives it elects to use are on the Approved List. If not, the permittee will be responsible for submitting the "New Chemical Additives Request Form" to Central Office. Central Office will 1) consider, using criteria it develops, whether the chemical additive is a candidate for the Approved List, 2) review toxicity data and calculate water quality effect levels based on aquatic life and human health endpoints, as applicable, and 3) update the Approved List with the chemical additive if it believes that approving the chemical additive is appropriate.

ATTACHMENT A

PART C CONDITION – CHEMICAL ADDITIVES

I. CHEMICAL ADDITIVES

A. Approved Chemical Additives List

1. The permittee is authorized to use chemical additives that are published on DEP's Approved Chemical Additives List (Approved List) (see [www.depweb.state.pa.us/chemicaladditives](http://www.depweb.state.pa.us/chemicaladditives)) subject to paragraphs A.2 and A.3, below.
2. The permittee may not discharge a chemical additive at a concentration that is greater than the water quality-based effluent limitation (WQBEL) for the chemical additive or, if applicable, a technology-based effluent limitation. If effluent limitations are not specified in Part A of this permit for the chemical additive, the permittee is responsible for determining the WQBEL and ensuring the WQBEL is not exceeded by restricting usage to an amount that will not cause an excursion above in-stream water quality standards.
3. If the permittee decides to use a chemical additive that is on DEP's Approved List and the use would either (1) constitute an increase in the usage rate specified in the NPDES permit application or previous notification to DEP or (2) constitute a new use, not identified in the NPDES permit application or otherwise no previous notification occurred, the permittee shall complete and submit the "Chemical Additives Notification Form" to the DEP regional office that issued the permit. The permittee may proceed to use the chemical additive as reported on the Form upon receipt by the DEP regional office.

B. New Chemical Additives, Not on Approved Chemical Additives List

1. In the event the permittee wishes to use a chemical additive that is not listed on DEP's Approved List, the permittee shall submit the "New Chemical Additives Request Form" (3800-FM-BPNPSM0486) to DEP's Central Office, Bureau of Point and Non-Point Source Management (BPNPSM), Division of Planning and Permitting, Rachel Carson State Office Building, PO Box 8774, Harrisburg, PA 17105-8774, prior to use. A copy shall be submitted to the DEP regional office that issued the permit. The form must be completed in whole in order for BPNPSM to approve the chemical additive, and a Material Safety Data Sheet (MSDS) that meets the minimum requirements of 29 CFR 1910.1200(g) must be attached.
2. Following placement of the chemical additive on the Approved List, the permittee may submit the "Chemical Additive Notification Form" (3800-FM-BPNPSM0487) in accordance with paragraph A.3, above, to notify DEP of the intent to use the approved chemical additive. The permittee may proceed with usage when the new chemical has been identified on DEP's Approved List and following DEP's receipt of the Chemical Additives Notification Form.
3. The permittee shall restrict usage of chemical additives to the maximum usage rates determined and reported to DEP on Chemical Additives Notification Forms.

C. Chemical Additives Usage Reporting Requirements

The "Chemical Additives Usage Form" (3800-FM-BPNPSM0439) shall be used to report the usage of chemical additives and shall be submitted as an attachment to the Discharge Monitoring Report (DMR) at the time the DMR is submitted.

- D. DEP may amend this permit to include WQBELs or otherwise control usage rates of chemical additives if there is evidence that usage is adversely affecting receiving waters, producing Whole Effluent Toxicity test failures, or is causing excursions of in-stream water quality standards.

Version History

| Date       | Version | Revision Reason   |
|------------|---------|---|
| 1/13/2015  | 1.4     | Revised Section I and Figure 1 based on the publication of a new industrial waste permit application. Removed "wastewater treatment chemicals containing polyacrylamide" from the definition of chemical additives. |
| 8/28/2014  | 1.3     | Added clarification to Section I and added Figure 1 to explain the permit application review process.   |
| 3/13/2013  | 1.2     | Revised definition of chemical additives to match definition that will be used in NPDES permits. Add Section IV to address transition issues during the permit application review phase.                            |
| 12/31/2012 | 1.1     | Added note to Section I D to clarify that existing Part A effluent limitations for chemical additives will generally be removed upon permit renewal.  |
| 11/9/2012  | 1.0     | Original  |