



**Standard Operating Procedure (SOP)¹ for Clean Water Program
Water Quality Management Permits for Sewage Treatment Facilities
SOP No. BPNPSM-PMT-027
Final, November 9, 2012
Revised, March 12, 2013
Version 1.3**

This SOP describes the procedures by which the Clean Water Program will process Water Quality Management (WQM) permit applications for new or modified sewage treatment facilities. The authorization type covered by this SOP is “WQ2TP” (Water Quality Mgmt Part II, Sewage Fac).

New sewage treatment plants that will be using land application as the complete effluent disposal option should use the authorization type “WQ2LA” (Water Quality Mgmt Part II, Sewerage Trmt Plant Land Application). The design of the treatment plant should be evaluated in accordance with this SOP, and the design of the land application system will be evaluated in accordance with the SOP for “Water Quality Management Permits for Land Application of Sewage and Industrial Wastewaters.” For (1) new sewage treatment plants with an NPDES permit and (2) modifications to all treatment plants (but not a land application system), the authorization type “WQ2TP” will be used.

Any permit applicant that is considering using the Pennsylvania Infrastructure Investment Authority (Pennvest) as a source of funding for a new wastewater system or making improvements to an existing wastewater system may have additional guidelines and requirements to follow. Project Managers will refer to the Handbook for Pennvest Wastewater Projects Technical Guidance (381-5511-113) to determine what, if any, additional guidelines and/or requirements may be necessary. Any questions related to Pennvest funding may be directed to the Central Office Financial Assistance Section at 717-705-4090.

This SOP is intended to comply with DEP’s Policy for Implementing the Department of Environmental Protection (Department) Permit Review Process and Permit Decision Guarantee (021-2100-001) (“PDG Policy”). Only certain types of applications are subject to the Permit Decision Guarantee (PDG) described in the PDG Policy. New WQM permit applications for sewage treatment facilities **ARE** part of the Permit Decision Guarantee (PDG), with a guaranteed permit decision within **85 business days**. Applications for amendment of existing WQM permits are not part of the PDG.

The Clean Water Program will refer to existing guidance and the Bureau of Point and Non-Point Source Management’s Program Clarification Memo on Permit Coordination (March 5, 2013) when evaluating the need to coordinate issuance of WQM permits with other permits.

I. Preliminary Data Management and Fee Processing (Administrative Staff)

When applications are received, administrative staff will:

- A. Create the authorization record in eFACTS.

¹ **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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1. Select the proper auth type code and verify that the correct fee was submitted (\$500).

The check should not more than 10 days old unless otherwise authorized by Management Directive OAM-1000-01, and the check should be payable to *Commonwealth of Pennsylvania*.

NOTE – PA state agencies are exempt from WQM permit application fees.

2. Prepare the physical check payment for transmission to the regional business office following Management Directive OAM-1000-01, and enter the fee payment against the authorization in eFACTS, unless the client is fee exempt. A copy of the check will be made and placed in the application file. Where the fee has not been submitted, treat it as an underpayment in accordance with the Management Directive.
3. Select the proper application type, using the appropriate regional organization code.
4. Associate the proper client and site to the project/authorization. If necessary, create the client, site, client/site relationship, at least one subfacility (SF) and the PF.
5. Enter the date the application was received (“Recvd”) and the date administrative staff creates the authorization (“Admin”) into eFACTS’ Application Screen.
6. Enter a project description in the Project screen (tab) in eFACTS. The description will be short but of sufficient detail to characterize the scope of the project, and written as staff wish it to appear in the PA Bulletin.
7. If required by eFACTS to create the authorization, select the lead reviewer as the Permits Chief. If the Permits Chief identifies the application manager at this step, the assigned application manager may be selected for the lead reviewer.
8. Select the Master Auth or set the current authorization to be the Master Auth, as appropriate.

NOTE – New WQM permit applications should always be Master Auths in eFACTS. Applications for amendments may use the original WQM permit as the Master Auth.

9. Create a subtask of “COMPL” (B/E Completeness Review) under the Completeness Review task in eFACTS, and enter a start date that corresponds to the date the application was received.

B. Enter consultant information.

If a consultant is identified on the application, select the appropriate client or otherwise create the consultant as a client on the Application Screen.

C. Enter or otherwise review and update PF and SF Details.

For non-land application scenarios, the applicable PF for a WQM permit is the same PF that is associated to the NPDES permit – do not change the PF Other ID. If the treatment plant is new and will use land application instead of a stream discharge, a new PF will need to be created. For new PFs and amendments to existing PFs associated with land application, use the WQM permit number as the PF Other ID.

1. Enter or update PF Mailing Address (client address) and Location Address (site address) in accordance with the application.

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2. Update the PF Kind to “Sewage Publicly Owned (Muni)” or “Sewage Non-Publicly Owned (Non-Muni),” as necessary.
3. Ensure the Client ID the PF is identical to that of the authorization, otherwise update the PF. For land application only, ensure the Other ID of the PF is identical to that of the authorization.
4. Create a Treatment Plant (TP) subfacility (SF) for new treatment plants, as applicable, and set the SF Status to Active. Enter SF Latitude and Longitude coordinates in eFACTS corresponding to the mid-point of the site. Enter a description of the treatment plant in the comments field.

NOTE – if there is an existing treatment plant that will be upgraded (e.g., new tanks, disinfection, etc.), and an existing TP in eFACTS, DO NOT create a new TP SF, but instead update the existing TP SF’s details and provide information on the upgrade in the comments field.

- D. Push Master Auth to NMS (if not done so previously), unless the current auth is the Master.

If the current auth is not the Master Auth (i.e., amendments only), ensure the Master Auth linked to the current auth has been pushed to NMS already (otherwise, push the Master Auth to NMS).

- E. Mail a complete copy of the application to Erie County Health Department (ECHD), Allegheny County Health Department (ACHD), or Delaware River Basin Commission (DRBC) if applicable, unless administrative staff is aware that the applicant mailed a copy directly to those agencies.

II. Prioritization and Assignment (Permits Chief)

Once Step I is completed by administrative staff, the application will be given to the Permits Chief. The Permits Chief will:

- A. Prioritize the application in accordance with the “Permit Review Hierarchy” contained in DEP’s Policy (400-2100-001). The Permits Chief will note on the application file or a permit tracking sheet the hierarchy number as contained in the Policy.
- B. Assign an application manager (i.e., “lead reviewer”) to the application unless this has been done previously. The Permits Chief will enter the name of the application manager into eFACTS for the authorization unless administrative staff has already completed this step.
- C. Optionally, route a copy of the application or a permit tracking sheet to Operations staff for a determination of non-compliance issues that may affect permit issuance.

III. Completeness Review (Application Manager)

Application managers will attempt to finish Completeness Reviews within 10 business days of DEP’s receipt of an application.

When the application manager receives the application from the Permits Chief, the application manager will:

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- A. Review the application for administrative completeness and overall technical adequacy. A complete and technically adequate application includes the following, not including the fee that is addressed in Step I:
1. One copy of the General Information Form (GIF).
 2. Two copies of the application (3800-PM-WSFR0400b), with one notarized original.
 3. Two copies of design plans with Engineer's seal and signature on cover and Engineer's seal on each plan sheet.
 4. Two copies of technical specifications with Engineer's seal and signature on cover.
 5. Two copies of the Design Engineer's Report with Engineer's seal and signature on cover.
 6. Two copies of the applicable design module(s) (i.e., Module 1 and others depending on the proposal).
 7. Two copies of a topographic map identifying the project site.
 8. Two copies of a general layout diagram (unless design plans provide this information).
 9. Two copies of a diagram providing sizes, capacities and dimensions (unless design plans provide this information).
 10. Proof of notification to the municipality and county under Act 14.
 11. One copy of the Act 537 approval letter (if approval is required).

NOTE – In general, if the applicant submits an older application form that is not the most recent, the application manager may deem any information that is missing an insignificant or significant deficiency, at the application manager's discretion. If the application is not denied as a result, the application manager will notify the consultant or applicant that a more recent version of the application is available for future use.

- B. Complete the following data management tasks in eFACTS:
1. Review and update PF and SF details as necessary. Record as much information as possible into the PF and SF details screens.
 2. Link all applicable SFs to the authorization record.
 3. Push the authorization from eFACTS to NMS. If the authorization cannot be pushed to NMS and if the problem(s) cannot be resolved by the application manager, the application manager will first work with administrative staff to resolve the problem(s) and then contact the Central Office Division of Operations, Monitoring and Data Systems if administrative staff cannot resolve them.
- C. If none of the criteria in A.1 – 11 are found to be deficient, the application manager will proceed to Step III F. No "completeness letter" will be issued.

The application manager will prepare the PA Bulletin notice for receipt of the application in NMS.

- D. If the application is incomplete and the deficiencies are determined to be insignificant (i.e., an item that in the application manager's judgment can be corrected within one business day), the

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application manager will contact the applicant (or applicant's authorized representative) by phone to explain the deficiency and offer the opportunity to submit the necessary materials informally before the Completeness Review deadline expires to make the application complete. The application manager may or may not (at the application manager's discretion) follow up the phone call with an email to the applicant or their authorized representative.

NOTE – in general, application managers will attempt to communicate by phone with the applicant (client or site contact) first, and if these attempts fail, the application manager may communicate with the consultant.

A phone log will be kept by each application manager that details the name of the person contacted, the day and time of the conversation, and notes for all communications regarding the completeness and technical reviews. All phone logs will be retained with the application file during and following permit issuance, or otherwise a database or spreadsheet will be used and made accessible to allow others to check latest correspondence for a case if the application manager is out of the office.

In the event the application manager is unable to contact the applicant, authorized representative or consultant by phone within 5 business days to communicate the insignificant deficiency, the application manager will prepare and issue a denial letter as noted in Step III E.

After the necessary materials have been received (receipt by email or fax is acceptable except when original signatures, plans or seals are needed), and assuming the application can then be considered complete, the application manager will then proceed to Step III F. If the submission does not correct the original insignificant deficiencies, the application manager will prepare and issue a denial letter as noted in Step III E, below.

- E. If the applicant fails to submit the requested information by the deadline for the Completeness Review Task following a phone call (or attempt to contact the applicant by phone), or if the deficiencies are determined to be significant, the application manager will prepare a letter that denies the application, for the Program Manager's signature. The template in NMS found at *Letters – Application Denial Letter* will be used. The eFACTS authorization record will be closed out by using the disposition code "Denied." A subtask of "DENC" (Application Incomplete – Denied) will be entered into eFACTS against the Completeness Review Task, with start and end dates corresponding to the date of the letter. The application fee will not be returned.
- F. Enter an end date for the "COMPL" subtask, when the application is deemed complete.

IV. Technical Review and Preparation of Permit (Application Manager)

Following completion of the Completeness Review, the application manager will verify that the application and supplementary materials meet DEP's recommended design standards, or otherwise deviate from such standards with appropriate justification, and prepare the permit documents. Applications will be reviewed in order of priority; in the event of a conflict, the matter will be resolved by the Permits Chief.

- A. Enter a "DR" (Decision Review) subtask in eFACTS under the Technical Review task, with a start date corresponding to the date following the determination that the application is complete.
- B. For new sewage treatment facilities and upgrades thereto, the application manager will consider the applicable design standards contained in the *Domestic Wastewater Facilities Manual* (362-0300-001) (DWFM). Those standards are DEP's preferred and recommended means for meeting the regulatory requirements.

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NOTE – Other methods to meet regulatory requirements may be used and will be considered, if they are adequately supported by design calculations, specifications, drawings, etc, that will allow the application manager to evaluate them, and determine whether the methods will serve the intended purpose with no adverse impacts on public health and safety or the environment.

- C. In addition to the standards contained in the DWFM, storage impoundments should be designed in accordance with the standards contained in Chapter 285 for municipal waste storage impoundments.
- D. The DWFM currently does not contain design standards for Sequencing Batch Reactors. Until the manual can be revised to reflect these design standards, it is recommended that the design be reviewed in accordance with the following:
1. Design F/M ratios should be in the range of 0.05 to 0.1.
 2. The aeration tank volumetric loading should be less than 15 lb BOD₅/day/1000 ft³.
 3. Reactor MLVSS and MLSS concentrations and aeration tank volumetric loading should be calculated at the low-water level.
 4. More than two tanks should be provided.
 5. Decantable volume and decanter capacity with the largest basin out of service should be sized to pass at least 75 percent of the design maximum day flow without changing cycle times.
 6. Decantable volume of at least 4 hours with the largest basin out of service based on 100 percent of the design maximum day flow should be provided.
 7. Treated effluent from each reactor should be free of scum.
 8. Scum removal should be provided.
 9. An adequate zone of separation between sludge blanket and decanter(s) should be maintained throughout the decant phase.
 10. Decanters which draw the treated effluent from near the water surface throughout the decant phase should be utilized.
 11. Consideration should be given to solids management to accommodate basin dewatering.
 12. The blowers should be provided in multiple units,
 13. Blower capacity should meet the maximum air demand in the oxic portions of the fill/react and react phases of the cycle with the single largest unit out of service.
 14. Mechanical mixing independent of aeration should be provided for systems where biological phosphorus removal or denitrification is required.
 15. The mixing equipment should be sized to thoroughly mix the entire basin from a settled condition within 5 minutes without aeration.
 16. The design effluent quality performance requirements for the plant should be sufficiently stringent to ensure acceptable effluent quality from any reactor.

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17. Flow paced composite sampling equipment and continuous turbidity metering should be provided for separately monitoring the effluent quality from each basin.
 18. Effluent quality composite samples flow-paced and include samples should be collected at the beginning and end of each decant phase.
 19. Programmable logic controller (PLC) should be provided.
 20. Multiple PLCs should be provided as necessary to assure rapid process recovery or minimize the deterioration of effluent quality from the failure of a single controller.
 21. An uninterruptible power supply with electrical surge protection should be provided for each PLC to retain program memory (i.e., process control program, last-known set points and measured process/equipment status, etc.) through a power loss.
 22. Hard-wired backup for manual override should be provided in addition to automatic process control.
 23. Automatic and manual controls should allow independent operation of each tank.
 24. A fail-safe control which cannot be adjusted by the operator should be provided allowing at least 20 minutes of settling between the react and decant phases.
- E. If necessary, transmit a technical deficiency letter.
1. In the event, upon a detailed technical review of the application, the application manager determines that the recommended design standards are not demonstrated in the application and supplementary materials, or if there are deviations from the standards that are not justified, or if the application manager disagrees with the justification for deviating from standards, and it is determined that regulatory requirements will not be met, the application manager will:
 - a. Discuss the deficiency with the Permits Chief, if the application manager is not a licensed Engineer. The Permits Chief will determine whether the issue should be considered an insignificant deficiency, a significant deficiency, or a non-deficiency.
 - b. Make a determination if the issue is an insignificant or significant deficiency, if the application manager is a licensed Engineer.
 2. If the deficiencies are determined to be insignificant, the application manager will contact the applicant and/or the project consultant by phone and request a response by the close of the next business day or an alternate deadline at the application manager's discretion. A phone log will be maintained by the application manager to record the results of all such conversations. A follow-up email may be transmitted at the application manager's discretion.
 3. If a) the insignificant deficiencies are not corrected by the deadline requested, b) multiple phone calls to the applicant and consultant fail to establish communication, or c) the application manager or Permits Chief determines that the deficiencies are significant, the application manager will prepare a Technical Deficiency (TD) Letter using the NMS template at *Letters – Technical Deficiency Letter*. The number of TD Letters will be limited to one in most circumstances. The letter will request a response within 15 business days or a longer period of time at the application manager's discretion (as long as it does not exceed the processing deadline in eFACTS). The application manager will enter a subtask of "SDN" (Send Deficiency Notice/Receive Response) into eFACTS with a start date corresponding to the date of the letter. A licensed Engineer will sign the TD Letter.

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4. If the applicant responds to the TD letter within 15 business days or the alternative schedule, the application manager will enter an end date for the “SDN” subtask in eFACTS corresponding to the date the submission was received, review the submission and, assuming it addresses the concerns raised in the TD letter, proceed with Step IV F. If the submission does not address the concerns in the TD letter, return to Step IV E.1.
5. If the applicant fails to respond to the TD letter within 15 business days or the alternative schedule, or if the response fails to address the issues raised in the TD letter, the application manager will enter a subtask of “ELEV” (Elevated Review Process) and brief the Section Chief on the circumstances.
6. If following the Elevated Review Process the decision is to deny the application, the application manager will enter a “DENT” subtask (App Technically Deficient – Denied) into eFACTS, enter start and end dates for the “DENT” subtask corresponding to the date of the decision, enter end dates for the “SDN” and “ELEV” subtasks, prepare a letter that denies the application using the NMS template at *Letters – Application Denial Letter*, and close the authorization in eFACTS using the disposition code “Denied.”

F. Prepare the Internal Review and Recommendations (IRR).

Application managers will provide a brief summary of the application and the review using the NMS template at *WQM Permits – Internal Review and Recommendations*. When complete, the document will be set to a status of Final and a disposition of Complete.

During preparation of the IRR, application managers will run the NMS Query at *Violations – eFACTS – Open Violations for Client by Permit No.* to determine whether there are any unresolved violations associated with the client that will affect issuance of the permit (per CSL Section 609). If there are unresolved violation(s), they will be documented in the IRR.

G. Prepare the final permit documents.

1. Application managers will generate and save the template found at *WQM Permits – WQM Permit for Sewage* to generate the permit document and the post-construction certification form. Following generation of the document, application managers will manually enter all information on the first page of the permit document that are not automatically populated. Application managers will also un-check all inapplicable standard permit conditions.

If deemed necessary by the application manager, a separate document containing special permit conditions will be generated and attached to the standard conditions.

2. Application managers will generate and save the template found at *Letters – WQM Permit Cover Letter* to serve as the cover letter for the final permit. The application manager will review the letter carefully to ensure that correct and appropriate facility names, abbreviations, salutations, and other information from eFACTS are used and make edits as needed.
3. These documents will be set to a status of Final and disposition of Pending, printed, assembled and provided to the Permits Chief.

V. Final Review (Permits Chief)

The Permits Chief will complete the following tasks upon receipt of the final permit package:

- A. Verify that coordination has been completed, if determined to be necessary.

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- B. Review the IRR and final permit documents, and sign the IRR if the Permits Chief is in agreement with the content, or otherwise return the package to the application manager for edits.
- C. Verify that the minimum required documents from Step IV are in NMS as Final – Pending documents.
- D. Submit the final permit package to the Program Manager.

VI. Final Decision (Program Manager)

The Program Manager will complete the following tasks upon receipt of the final permit package:

- A. Review the IRR and final permit documents.
- B. Sign the final permit cover letter, the first page of the permit document and the IRR if the Program Manager is in agreement with the content, or otherwise return the package to the Permits Chief for edits.
- C. Submit the final, signed permit package to administrative staff or the application manager (at regions' discretion).

VII. Final Permit Processing (Administrative Staff or Application Manager)

Administrative staff or the application manager will complete the following tasks upon receipt of the final, signed permit package:

- A. Open the permit document in NMS, enter the issuance date on the permit and apply a signature indicator (“/s/”) on the permit.
- B. Change the Disposition of the final permit cover letter, final permit and all other documents that will be part of the final permit package issued to the applicant from “Pending” to “Issued (Mailed).” Change the Disposition of documents that are not part of the final permit package from “Pending” to “Complete.” Ensure there are no documents in the list with a Disposition of “Pending”.
- C. Enter an end date for the “DR” subtask in eFACTS corresponding to the issuance date.
- D. Issue the authorization in eFACTS.
- E. Make copies, and mail the copies to the applicant, consultant, ECHD, ACHD and DRBC, as applicable, with a copy to other appropriate staff. The final permit cover letter will be sent via Certified Mail to the applicant only.
- F. Generate and save the PA Bulletin listing for the final permit issuance using the appropriate template in NMS or the standard PA Bulletin template.
- G. Transmit the case files to the regional file room.

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Version History

Date	Version	Revision Reason
3/12/2013	1.3	Added a reference to the Program Clarification Memo on Permit Coordination in the introduction, and removed the requirement for Permits Chiefs to verify coordination requirements in Section II before the completeness review. Removed requirement for coordination of the WQM permit with Chapter 102/105 permits.
1/2/2013	1.2	Modified the step for preparing the PA Bulletin Notice for receipt of the application from Section I.F (administrative process) to Section III.C (completed through NMS once application is deemed complete).
12/31/2012	1.1	Clarified in Section I A.2 that if a fee is missing, it should be treated as an underpayment in accordance with the Management Directive.
11/9/2012	1.0	Original