



**Standard Operating Procedure (SOP)¹ for Clean Water Program
Water Quality Management Permits for Manure Storage Facilities
SOP No. BPNPSM-PMT-026
Final, November 9, 2012
Revised, March 12, 2013
Version 1.4**

This SOP describes the procedures by which the Clean Water Program will process Water Quality Management (WQM) permit applications for new or modified manure storage facilities. The authorization type covered by this SOP is "W2CAF" (Water Quality Mgmt Part II, Manure Storage Fac for CAFO).

A WQM permit is required to construct and operate manure storage facilities in the following circumstances:

1. Any manure storage facility that will not be constructed and operated in accordance with the Manure Management Manual and NRCS' Pennsylvania Technical Guide.
2. Any manure storage facility constructed after January 29, 2000 in which a registered professional engineer does not certify that the design and construction of the facility meet the Manure Management Manual and NRCS' Pennsylvania Technical Guide.
3. Any new or expanded liquid or semisolid manure storage facility located at an animal operation with over 1,000 AEU's.
4. Any new or expanded liquid or semisolid manure storage facilities constructed after October 22, 2005 that:
 - a. Have a combined storage capacity of 2.5 million gallons or greater; or
 - b. Have a combined storage capacity between 1 million and 2.5 million gallons and a) the nearest downgradient stream is designated HQ or EV under Chapter 93 or b) the nearest downgradient stream is impaired from nutrients due to agricultural activities.
5. Any new manure digester. (**NOTE** – It is recommended that the application manager refer the operator to the regional Waste Management Program for a General Permit if the operator is proposing to introduce food processing waste to the digester).

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 manure storage facilities **ARE** part of the Permit Decision Guarantee (PDG), with a guaranteed permit decision within **65 business days**. Applications for amendments to existing WQM permits are not part of the PDG.

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

The check should not be 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 primary facility (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.
6. 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.
7. 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.

8. 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.

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- C. Enter or otherwise review and update PF and SF Details.
 - 1. Enter or update PF Mailing Address (client address) and Location Address (site address) in accordance with the application.
 - 2. Update the PF Kind to “Concentrated Animal Feeding Operation” (if a CAFO) or “Agricultural Operation” (if not a CAFO), as necessary.
 - 3. Ensure the Client ID and Other ID of the PF are identical to those for the authorization, otherwise update the PF.
 - 4. Create a Treatment Plant (TP) subfacility (SF) for new manure treatment plants including methane digesters, as applicable. Enter SF Latitude and Longitude coordinates in eFACTS corresponding to the mid-point of the facility. Enter a description of the treatment plant in the comments field.
 - 5. Create one Storage Unit (SU) SF for each manure storage facility, except where facilities are in series (e.g., 2-stage impoundments). For modifications to existing storage facilities, do not create a separate SF, but provide comments in the SF comment field. Enter relevant information such as design capacity, and enter SF Latitude and Longitude coordinates in eFACTS corresponding to the mid-point of the facility.
- D. Push Master Auth to the NPDES Management System (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.

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

- 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. The plans should reveal detailed site topography, property lines, setbacks, drainageways, streams and waterways, adjoining properties and buildings, manure storage facilities, wells, known sinkholes and closed depressions and other important site features. The plans should also depict the layout and piping of stormwater and manure collection systems, diversion or treatment facilities from barnyards, feedlots, and animal concentration areas, as applicable.
 4. Two copies of technical specifications with Engineer's seal and signature on cover (these may be incorporated into the Design Engineer's Report).
 5. Two copies of the Design Engineer's Report with Engineer's seal and signature on cover. The Report should include:
 - a. Estimated volumes of wastewater expected to be generated and stored including manure, animal beddings, waste feed, barnyard runoff, milking center wash water, flush water, silage leachate, other wastes; the net precipitation over the planned storage period; allowance made for storage of the calculated volume of a 25-year/24-hour rain event (both direct precipitation and runoff from drainage area if applicable); sediment and required freeboard (per 25 Pa. Code § 91.36(a)(6)). Note that for new or expanded CAFOs that commenced operations after April 13, 2003 and that include swine, poultry or veal, manure storage facilities that contain manure from those animals must prevent discharges to surface waters during a storm event up to and including a 100-year/24-hour storm (per 25 Pa. Code § 91.36(a)(5)).
 - b. Basis for selection and use of construction materials and construction methods.
 - c. Design engineer's certification statement to the adequacy of the structural integrity and stability of the proposed manure storage facilities, required capacities and freeboard.
 6. Two copies of the applicable design module(s) (i.e., Module 18 and possibly 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.

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11. Either a) a notarized copy of a publication in a local newspaper within the county where the facility is located with a statement of the publication dates or b) separate clippings of each notice that show publication dates. The documentation should show that the notice was published at least once per week for four consecutive weeks.

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, as applicable, 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 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

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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.

In general, designs should conform to the latest standards contained in the Manure Management Manual and NRCS' PA Technical Guide. Relevant PA Technical Guide standards include (but are not limited to): 313 (Waste Storage Facility), 313P (Waste Storage Facility (Pond)), 359 (Waste Treatment Lagoon), 382 (Fence), 521A through 521D (Pond Sealing or Lining), 606 (Subsurface Drain), 620 (Underground Outlet), 634 (Waste Transfer), and 735 (Waste Gasification Facility). For assistance in interpreting and applying design standards, and in cases where the design intentionally deviates from design standards, the application manager will contact Central Office.

- 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. The application manager will consider all of the following, as applicable, when determining whether the proposed design meets DEP design standards.
 - 1. General.
 - a. Fencing should be provided around manure storage facilities in most cases to prevent unauthorized access.
 - b. The Design Engineer's Report should include provisions for operation and maintenance of the storage facility.
 - c. The design must consider freeboard necessary to achieve the requirements of 25 Pa. Code § 91.36 and winter storage requirements per the farm's approved Nutrient Management Plan.
 - d. If a manure storage facility is proposed within the 100-year floodway (generally within 50 feet of a stream unless a detailed FEMA study is available), then a permit under Chapter 105 is required.
 - e. The design must be in accordance with the setback provisions of 25 Pa. Code § 83.351.

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- f. All manure storage facilities should be designed with leak detection systems with porous media such as 2B stone, and be constructed on compacted subbase material to improve the likelihood that leaks from the bottom or sides will drain to an outlet for detection and corrective action. The subbase permeability must be no greater than 10^{-4} cm/sec. The Design Engineer's Report should provide calculations to document that leaks will be adequately conveyed to the outlet. The leak detection piping should be smooth perforated pipe (not corrugated). If trenches are used for the leak detection zone, the trenches should be lined with synthetic liner material. The outlet should be contained within a sump pit or other retention basin. The pit or basin should have an outlet with a shut-off valve that is normally closed. The outlet of the leak detection system (inlet to the pit or basin) should not have a shut-off valve or, if one is provided, this valve should normally remain open. For in-ground sump pits, the design should consider the installation of a pump to convey leakage to the manure storage or alternate location.
 - g. If groundwater is known to be present at shallow depths or is encountered during construction, the design should make provisions for a subsurface drainage system. This system should be placed beneath the subbase for the leak detection system.
 - h. The Design Engineer's Report should contain provisions for construction supervision and inspection by a PA-registered professional engineer, and for certifying on a post-construction inspection form that the construction was completed in accordance with the design plans, design specifications, and WQM permit.
2. Impoundments.
- a. The industry standard manure impoundment in Pennsylvania is a flexible synthetic liner (e.g., HDPE) with a subbase compacted to achieve a specific discharge no greater than 10^{-5} cm/sec and a leak detection system. Impoundments that propose less than this industry standard warrant a more detailed review.
 - b. For liner systems that do not include synthetic liners, verify the proposed liner system will achieve an overall specific discharge rate no greater than 10^{-5} cm/sec as determined by methods identified in Appendix 10D of The Agricultural Waste Management Field Handbook (AWMFH).
 - c. The Design Engineer's Report for all manure impoundments should provide the results of permeability and density tests for representative samples of material that will be used for the impoundment's subbase and/or liner system, at the design rate of compaction. Provisions should be included in the Report to provide field testing, prior to startup of operations, to verify that field compaction meets or exceeds the design objectives.
 - d. Single clay liner systems are not preferred in any location, but specifically will not be authorized in (1) special protection watersheds, (2) watersheds impaired for nutrients, (3) areas of hazardous geology. If a single clay liner is proposed, the application manager will coordinate the review with Central Office and a licensed Professional Geologist in the regional office.
 - e. Synthetic liners should meet the minimum standards in the PA Technical Guide and be underlain by a geotextile material.
3. Concrete Storage Structures.
- a. The design should demonstrate that the facilities will meet the PA Technical Guide Standard 313 design criteria.

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- b. Concrete should be cast or installed in accordance with the construction specifications and must be of a quality to achieve no less than 4,000 PSI strength.
 - c. The use of a 3-inch minimum drainage layer of stone aggregate is necessary under the floor.
4. Digesters and Nutrient Removal Facilities.
- a. In general, digesters and other facilities designed to remove nutrients are expected to achieve the same standards as manure storage facilities.
 - b. The application manager will coordinate the development of permits that have implications for nutrient trading activities with Central Office.
- C. 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 design standards above are not demonstrated in the application and supplementary materials (as applicable), 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.
 - 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 D. If the submission does not address the concerns in the TD letter, return to Step IV C.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

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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.”

D. 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.

E. Prepare the final permit documents.

1. Application managers will generate and save the template found at *WQM Permits – WQM Permit for Manure Storage* 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.

The application manager may generate and save a separate document containing special permit conditions, at the discretion of the application manager and Permits Chief. If used, the special conditions will be attached to the WQM permit’s standard conditions and will be referenced on the first page of the permit.

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.
- 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.

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- 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 (*this is subject to change*).
- G. Transmit the case files to the regional file room.

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Version History

Date	Version	Revision Reason
3/12/2013	1.4	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	1.3	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).
12/28/12	1.2	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.
12/6/2012	1.1	Added introductory language that by policy, all new manure digesters will require a WQM permit.
11/9/2012	1.0	Original