

Ohio Environmental Protection Agency

Fact Sheet For

National Pollutant Discharge Elimination System (NPDES)

General Permit for Discharges from Pesticide Applications

I. Background

The Federal Water Pollution Control Act [also referred to as the Clean Water Act (CWA)], the Ohio Water Pollution Control Act and the Ohio Revised Code (ORC Chapter 6111) provide that discharge of pollutants to waters of the state from any point source is unlawful, unless the discharge is in compliance with an effective NPDES permit.

The purpose of issuing NPDES permits to pesticide applications is to ensure that any discharges of pesticide residues are in compliance with all applicable state and federal water pollution control laws.

II. History of Federal Pesticide Application Regulation

In the more than 30 years that U.S. EPA has administered the CWA, the Agency had never issued an NPDES permit for the application of a pesticide to target a pest that is present in, over or near the water where the application results in a discharge to waters of the U.S. Instead, U.S. EPA has been regulating these types of applications through the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Under FIFRA, U.S. EPA regulates the sale, distribution and use of pesticides in the U.S. to ensure that when used in conformance with FIFRA labeling directions, pesticides will not pose unreasonable risks to human health and the environment. All new pesticides must undergo a registration procedure under FIFRA during which U.S.EPA assesses a variety of potential human health and environmental effects associated with the use of the product. Under FIFRA, EPA is required to consider the effects of pesticides on the environment by determining, among other things, whether a pesticide “will perform its intended function without unreasonable adverse effects on the environment” and whether “when used in accordance with widespread and commonly recognized practice [the pesticide] will not generally cause unreasonable adverse effects on the environment”. In performing this analysis, EPA examines the ingredients of a pesticide, the intended type of application site and directions for use, and supporting scientific studies for human health and environmental effects and exposures. The applicant for registration of the pesticide must provide specific data from tests done according to EPA guidelines.

When EPA approves a pesticide for a particular use, the Agency imposes restrictions through labeling requirements governing each use. The restrictions are intended to ensure that the pesticide serves an intended purpose and avoids unreasonable adverse effects. It is illegal under Section 12(a)(2)(G) of FIFRA to use a registered pesticide in a manner inconsistent with its labeling. States have primary authority under FIFRA to enforce “use” violations, but both the States and EPA have ample authority to prosecute pesticide misuse when it occurs. In Ohio the FIFRA enforcement authority is the Department of Agriculture.

Over the past ten years, several courts addressed the question of whether CWA authority requires

NPDES permits for pesticide applications. On November 27, 2006, EPA issued a final rule clarifying two specific circumstances that did not require NPDES permits to apply pesticides to or around water:

1. The application of pesticides directly over water to control pests; and
2. The application of pesticides to control pests that are present over, including near, water where a portion of the pesticides will unavoidably be deposited to the water to target the pests.

Both cases assume that the applications are consistent with applicable FIFRA requirements.

This rule was challenged by both environmental and industry groups. On January 9, 2009, the pesticide rule was vacated by the U.S. Sixth Circuit Court. The Court held that the CWA unambiguously includes “biological pesticides” and “chemical pesticides” with residuals within its definition of “pollutant”. Specifically, an application of chemical pesticides that leaves no excess portion is not a discharge of a pollutant, and the applicator need not obtain an NPDES permit. However, chemical pesticide residuals are pollutants if they are discharged from a point source for which NPDES permits are required. Biological pesticides, on the other hand, are always considered a pollutant under the CWA regardless of whether the application results in residuals or not and require an NPDES permit for all discharges from a point source. The industry petitioners appealed this ruling to the U.S. Supreme Court, which denied the request to hear the case.

In response to this decision, EPA requested a two-year stay of the mandate to provide the Agency time to develop general permits, to assist NPDES-authorized states to develop their NPDES permits, and to provide outreach and education to the regulated community. The Sixth Circuit granted EPA an extension until April 2011.

As a result of the Court’s decision, NPDES permits will be required for discharges to waters of the U.S. of biological pesticides, and of chemical pesticides that leave a residue. Although the Court did not define what a residual is, for the purposes of this permit, Ohio EPA assumes that all chemical pesticides will leave a residual once the product has performed its intended purpose. Any person who wishes to contest this assumption should submit scientific data to prove that no quantity of a chemical pesticide falls into a water of the state.

The permit does not cover discharges that, by law, are not required to obtain NPDES permit coverage. The Clean Water Act specifically excludes from the definition of point source “agricultural stormwater discharges and return flow from irrigated agriculture”. Nothing in this permit changes the effect of those statutory exemptions. For example, the application of a pesticide to an agricultural crop for the control of terrestrial pests that later runs off the field, either as irrigation return flow or stormwater runoff, is exempt from permit coverage even if that discharge is known to contain pesticide residuals. However, as a result of the court’s decision discharges from the application of pesticides to irrigation ditches and canals that are either waters of the state or convey to waters of the state now require NPDES permit coverage.

### III. Current Ohio Regulation of Pesticides

The Ohio Department of Agriculture oversees FIFRA compliance. The Agriculture Department’s Pesticide & Fertilizer Regulation section licenses pesticide dealers and applicators and offers training and testing sessions throughout the year. This not only helps assure the safe use of pesticides, it also helps prevent misuse and mishandling. The section licenses 30,000 pesticide applicators and more than 13,000 pesticide products. This section also administers the Clean Sweep Program and the Pesticide Container Recycling Program to protect consumers and the environment. The programs assist pesticide users with proper disposal of unusable and out-of-date pesticides.

As part of this program, the Ohio Department of Agriculture has records of licensed applicators, indicating the number of licensed applicators for each category of pesticide use.

In addition to this oversight, Ohio EPA reviews direct applications of pesticides to waters of the state. The Ohio Water Quality Standards contain a limited exception for pesticides in Ohio Administrative Code 3745-1-01(E)(1). Under this rule, Ohio EPA does site-specific reviews of FIFRA requirements to ensure minimum impact from pesticides and residues. The exception is a recognition that applying chemicals designed to kill will not meet state narrative toxicity standards [OAC 3745-1-04(D)] for all species at all times.

For pesticide applications to reservoirs used for drinking water, Ohio EPA's Division of Drinking and Ground Waters also reviews the application to ensure that drinking water standards are met.

#### IV. Description of General Permit Coverage and Type of Discharge

Ohio EPA has elected to issue a statewide general permit to cover discharges from pesticide applications. Ohio EPA expects that these discharges will have minimal effects on the environment. There are several reasons for this expectation. First, the 2010 Integrated Water Quality Report identifies only a few impairments due to pesticides. These impairments are almost all impairments of public water supply uses due to atrazine concentrations. Atrazine is an herbicide used in row crop agriculture; it is not generally used in the applications covered by this permit. Also, Ohio EPA's current review of pesticides directly applied to state waters ensures that impacts to water quality from the most direct and intensive applications are minimal. The draft permit would extend some of these management practices to other pesticide uses, thereby reducing any adverse effects.

- A. **Activities Covered.** This permit is available to operators of discharges to surface waters of the state, or above or near surface waters of the state, from the application of (1) biological pesticides and (2) chemical pesticides which leave a residue for the following four pesticide use patterns:
1. **Mosquito and Other Aquatic Nuisance Insect Control** - management of all public health/nuisance pests which develop during a portion of their life cycle in standing or flowing water. Public health/nuisance pests in this use category include but not limited to mosquitoes and black flies.
  2. **Aquatic Weed and Algae Control** - management of weeds and algae in water, including but not limited to lakes, ponds, rivers, streams, irrigation canals, and drainage systems (ditches, canals, etc).
  3. **Area-Wide Pest Control** - management of a diverse pest spectrum (insects, weeds, and/or pathogens) in wide range of diverse habitats where a portion of the pesticides will unavoidably be deposited to water to target the pests effectively. Habitats in this use category include but are not limited to rangeland, forests, urban, and ditch banks. Area wide application means management of a pest (e.g., gypsy moths, grasshoppers, etc.) to contain an infestation and in area greater than 15 contiguous acres.

4. Aquatic Nuisance Animal Control - management of invasive or other nuisance species in water, including but not limited to lakes, ponds, rivers, and streams. Aquatic nuisance animals in this use category include, but are not limited to fish, lampreys, and mollusks.
- B. Who is covered. "Operators" of pesticide applications are covered as defined in Part VI of the permit. The criteria below cover both the person authorizing the application and the person performing the application:
1. The entity has operational control over the decision to perform pesticide applications that result in discharges, including the ability to modify those decisions; and/or
  2. The entity has day-to-day operational control of activities which are necessary to ensure compliance with the permit (e.g., they are authorized to direct workers to carry out activities required by the permit).
- C. Limitations on Coverage. The following discharges are not authorized by this permit:
1. Discharges to Water Quality Impaired Waters. An operator is not eligible for coverage under this permit for discharges to waters of the U.S. identified as impaired for the pesticide or its degradates. Impaired waters are those which have been identified in the Ohio Integrated Water Quality Report as not meeting applicable State water quality standards. Impaired waters include both waters with EPA-approved and Ohio EPA-established Total Maximum Daily Loads (TMDLs) and those for which EPA has not yet approved or established a TMDL. Ohio's Integrated Water Quality Report is posted on the Ohio EPA web site: <http://www.epa.state.oh.us/dsw/tmdl/index.aspx>
  2. Discharges Currently Covered by another Permit. You are not eligible for coverage under this permit if you have coverage under an existing NPDES permit and you have approval for the discharge of a pesticide used as a cooling or boiler water additive.
  3. Discharges for which the Director requests an individual permit application;

The permit does not cover any discharges that the Director of the Ohio EPA has determined to be contributing to a violation of a Water Quality Standard (WQS) as determined in Ohio Administrative Code, Chapter 3745-1.

Coverage for aerial spraying for mosquitoes, other insects or forest pests such as gypsy moths is required if spraying is done in areas over or near waters of the state. Coverage for aquatic pests is required if spraying is done to waters of the state or near waters of the state (for example, ditch or stream banks, wetlands).

Discharges not eligible for coverage under this permit may still obtain an individual NPDES permit by submitting individual permit applications (Form 1, Form 2D, and an Antidegradation

Addendum).

- D. Notice of Intent – The pesticide discharges listed below must submit a Notice of Intent (NOI) application to apply for coverage under the general permit. The USEPA's regulations at 40 CFR 122.21 (a) exclude facilities covered by general permits from requirements to submit an application for an individual permit.

NOIs are required for:

1. Any direct application to reservoirs used as a drinking water supply for aquatic algae, weed or nuisance animal control;
2. Any piscicide (fish killing) application;
3. Any direct pesticide application to Category 3 wetlands, Outstanding State Waters or Superior High Quality Waters other than Lake Erie for aquatic algae, weed or nuisance animal control (The definitions and lists of Outstanding State Waters and Superior High Quality Waters are in Ohio's Antidegradation Rule – OAC 3745-1-05; the definition of Category 3 wetlands is in OAC 3745-1-54);
4. Any direct application to Category 1 or 2 wetlands that exceeds an annual treatment area threshold in Part V (The definitions of Category 1 and 2 wetlands are in OAC 3745-1-54).
5. Any aerial spraying for forest pest control, or for aquatic weed control in Lake Erie that exceeds an annual treatment area threshold in Part V.

NOI requirements are intended to establish a mechanism that can be used to establish a clear accounting of the number of facilities covered by the general permit, their identities, locations, mailing addresses, and nature of discharge. Ohio EPA chose these categories for review because of potential impacts to drinking water quality, non-target organisms, sensitive waters.

NOIs are being required for drinking water reservoirs because of the potential for pesticides to pass through water treatment processes and affect drinking water quality. Ohio EPA also believes that treatment to kill algae, particularly when blooms occur, is sometimes counterproductive because killing the algae may release more toxins than letting it be in certain cases.

The Agency is requiring NOIs for piscicide applications because these applications need to be carefully managed to avoid minimize to non-target organisms. Ohio EPA has noticed problems with non-target organism mortality during sea lamprey treatments, and as a result has required additional controls on these applications in the past. Requiring NOIs in these situations provides a site-specific review of controls.

The Agency has also included aerial spraying (i.e., from aircraft) because of the large scale of these applications.

Ohio EPA is not requiring notices-of-intent for other pesticide applications. The Agency believes that the existing licensing oversight provided by the Agriculture Department provides adequate review of pesticide applications. The Agriculture Department's records include information on the activities licensed and the number of licensed applicators in a given company or government body. Also, the annual reporting requirements for applications over the federal thresholds will provide Ohio EPA with data on pesticide amounts being applied in larger applications.

To apply for general permit coverage, all applicants will be required to complete and submit an NOI application form that is available from Ohio EPA, along with an application fee of \$200. The NOI application form and appropriate fees shall be submitted to the following address:

Ohio Environmental Protection Agency  
Office of Fiscal Administration  
P.O. Box 1049  
Columbus, Ohio 43216 - 1049

A copy of the NOI should also be sent to the appropriate district office of the Ohio EPA.

#### V. Description of Permit Conditions

The permit is laid out in sections, with requirements applicable to all covered pesticide applications first and requirements for specific applications listed later.

Part I of the permit describes which discharges can be covered.

Part II of the permit lists NOI requirements for those who need to apply for coverage.

Part III lists treatment-technology and water quality-based limitations. The treatment technology limits are management plans, which are considered technology-based limits. The permit contains general management practices in Part III A that apply to all covered pesticide applications; there are also Pesticide Discharge Management Plans in Part V A that apply to pesticide applications to areas greater than the thresholds in Part IV. The PDMP is not a limitation and does not by itself impose requirements on discharges; these are already imposed in Part III of the permit. The PDMP is a tool for operators to document how control measures will be implemented to comply with the permit's effluent limitations.

This part of the permit also contains general water quality-based limits. The operator must control its discharge as necessary to meet applicable water quality standards. This includes any specific conditions set in the water quality standards review of direct applications to surface waters. This part also contains basic visual monitoring of surface waters potentially affected by the application.

This section also contains requirements for operators applying pesticides to ponds, quarries and borrow pits. These waters often intersect with ground waters that may be used as a source of drinking water for public or private well owners. To protect these water supplies, Ohio EPA has proposed a requirement that the pond meet Maximum Contaminant Levels for pesticide chemicals, if the MCL concentration is more restrictive than the FIFRA label requirements. The MCL would need to be met as an "as mixed" concentration for the pond volume. Ohio EPA expects that operators can use estimates of the pond or quarry volume to calculate dosing volumes to meet the MCL requirement.

This section also contains temporary signage requirements for applications to ponds that have public access. This would include both public areas and those accessible by members of homeowner associations and private individuals. Pond owners that do not have outside access, for example companies that have ponds accessible only by employees, are exempt from this requirement.

Part IV contains requirements for corrective actions and reporting, if circumstances require them.

Part V lists requirements for applications larger than certain annual thresholds. These conditions apply to applications affecting more than 640 land acres, 20 lake acres or 20 linear stream miles. The conditions include Integrated Pest Management (IPM) as an additional technology-based control, Pesticide Discharge Management Plans to document how all technology-based limits are met, and

annual reporting requirements. Ohio EPA may use best management practices such as IPM under federal rule 40 CFR 122.44(k).

The application thresholds above are the same as those used in U.S. EPA's draft general permit. Ohio EPA believes that these thresholds will be exceeded by all but very small numbers of pesticide uses.

Part VI contains conditions from federal rules that must be included in all NPDES permits. These rules can be found primarily in 40 CFR 122.41 and 122.42.

## VII. Antidegradation

Because this permit authorizes new discharges to waters classified as General High Quality Waters, Outstanding State Waters, Superior High Quality Waters and Category 3 wetlands, certain provisions of Ohio's Antidegradation Rule apply [OAC Rule 3745-1-05]. This general permit is going to public notice as a degradation under the public notice provisions of the Antidegradation Rule [OAC Rule 3745-1-05(C)(3)].

The Antidegradation Rule excludes general permits from the alternatives analysis and social/economic justification portions of the rule. The discharge alternative being considered for this permit is allowing discharges to surface waters, with technology-based controls and pollution prevention requirements (Integrated Pest Management) as BADCT and mitigating requirements. Ohio EPA considers the public health benefits and the benefits of invasive species control as positive contributions of pesticide use. Use of these chemicals according to FIFRA label instructions and Ohio EPA NOI approval conditions is not expected to have impacts to human health or significant impacts to aquatic life.

Ohio EPA considered and rejected the alternative of central treatment of this water at a publicly-owned treatment works (POTW). The applications of pesticides to water or air are diffuse and not amenable to collection; the applications to stream banks are deliberately done during drier periods to minimize the amount of pollutant in water. Washing the banks and collected the pesticide in water for treatment would be counterproductive, both from the point of minimizing water contact and also would hinder the effect of the pesticide by rinsing vegetation before the pesticide could act. Therefore central treatment at a POTW is not an appropriate disposal option for pesticide application wastewater.