



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## Wastewater Permit Terminology

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### Introduction:

Some water used in various manufacturing processes comes in contact with raw materials, byproducts and waste materials. Before any of this water may be released back into the environment, facilities must treat it to remove harmful levels of pollutants. To ensure wastewater is effectively treated and managed, IDEM issues discharge permits with specific requirements about how clean the water must be to meet Indiana's standards, and measures the facility must take to assure its compliance. Facilities also must address potential pollutants in other types of water, such as non-contact cooling water or steam condensate, which do not come into contact with raw materials, byproducts or waste materials, and storm water run-off.

Regular updates to discharge permits and storm water pollution prevention plans allow regulators to evaluate any changes in pollutants due to new or changing processes or volumes of flow from facilities, new regulations that need to be incorporated into permit requirements, and necessary pollution prevention measures. The following list includes some of the more common terms used by staff responsible for issuing wastewater permits. We encourage the public to review draft permit documents available electronically on the IDEM Web site at [www.idem.IN.gov](http://www.idem.IN.gov).

**What is meant by the term "administratively extended?"** A permit is administratively extended and valid until a renewal is issued and takes effect, provided the permitted facility has submitted its renewal application on time.

**What is antidegradation?** Antidegradation is a concept in the law that is meant to protect waters where the water quality is better than standards set by the federal government. For a facility that proposes to increase or add new pollutants to water, that the facility would have to follow a set of procedures to look at alternatives to discharging those new or increased levels of pollutants and evaluate the economic and social reasons for the proposed discharge.

**What is anti-backsliding?** Antibacksliding is a provision in the Clean Water Act and NPDES regulations prohibiting the relaxation of effluent limitations in reissued permits.

**What is best professional judgment?** Where effluent limit guidelines (ELGs) aren't provided for, or do not regulate, a certain pollutant of concern, a permit writer will employ best professional judgment to establish a permit limit for that pollutant. Best professional judgment is defined as the highest quality technical opinion developed by a permit writer after consideration of all reasonably available and pertinent data and information. Best professional judgment limits are based on technology-based effluent limits (TBELs), on a case-by-case basis, for industrial facilities. When establishing permit limits using best professional judgment, permit writers should ensure their decisions are based on sound engineering analysis, clearly defining and documenting for the public how they arrived at the decision.

**What is the Clean Water Act?** The Clean Water Act (CWA), passed by Congress in 1972, is the cornerstone of surface water quality protection in the United States. (The CWA does not deal directly with ground water, nor with water quantity issues.) The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted run-off. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

**What is a compliance schedule (or schedule of compliance)?** A compliance schedule gives an existing discharger time to make required changes at the facility or in its processes in order to comply with a new or more stringent permit limit. A compliance schedule will outline a sequence of actions, operations or milestone events for achieving compliance with the new or more stringent regulations.

**What is a conventional pollutant?** See "What is a pollutant?"

**What is a draft permit?** A document indicating the agency's tentative decision to issue, deny, modify, revoke and reissue, terminate or reissue a permit.

**What is effluent?** Treated wastewater that is discharged from a point source to a surface water, such as a lake or stream, or to a publicly-owned treatment works (POTW).

**What are effluent limitations?** Restrictions on quantities, discharge rates and concentrations of pollutants discharged from point sources into waters of the United States. Effluent limitations that are implemented through the National Pollutant Discharge Elimination System (NPDES) permit programs include water quality based effluent limitations (WQBELs) and technology-based effluent limitations (TBELs).

**What are effluent limitations guidelines (ELGs)?** ELGs are regulations under the federal Clean Water Act that establish national technology based effluent requirements for a specific industrial category.



**What is an individual NPDES permit?** An individual NPDES permit is one that is tailored to address specific pollutants expected to be in the wastewater generated onsite at the given facility.

**What is a major industrial facility?** The designation as major industrial is made by U.S. EPA and generally involves these factors related to the significance of the environmental impact from the facility's discharge: nature and quantity of pollutants discharged, the quality and conditions of the receiving water, the presence of toxic pollutants in the discharge and the compliance history of the discharger.

**What is a mass limit (mass-based standard)?** A permit limit measured in mass, such as pounds per day.

**What is a narrative water quality standard?** Narrative standards describe the quality we want to achieve for our lakes and streams, based on how we want to use them. In Indiana, our water quality standards require all of our state lakes and streams to be high quality waters, so that we can use them for swimming, fishing and as drinking water sources.

**What is a National Pollutant Discharge Elimination System (NPDES) permit?** NPDES stands for National Pollutant Discharge Elimination System. A NPDES permit contains limits for the amount of pollutants a facility can discharge and requirements for monitoring and reporting. Under the federal Clean Water Act, all facilities that discharge pollutants from any point source into a water of the United States must obtain a NPDES permit. NPDES permits cover a myriad of activities and different types of discharges, including discharges from industrial facilities. NPDES permits must be consistent with the federal Clean Water Act and federal and state regulations and facilities operating under NPDES permits must comply with their conditions. In Indiana, IDEM administers the federal NPDES permitting program in Indiana under a memorandum of understanding with the United States Environmental Protection Agency. Permits are renewed every five years.

**What are nonconventional pollutants?** See "What is a pollutant?"

**What are numeric limits?** See "What is a permit limit?", "What is water quality criteria?", and "What is a water quality standard?"

**What are outfalls?** See point source.

**What is an outstanding state resource water (OSRW)?** "Outstanding state resource waters" are designated as such by Indiana's Water Pollution Control Board and may include any waterbodies that have unique or special ecological, recreational or aesthetic significance.



**What is a permit limit?** Permit limits are numeric limits established for pollutants of concern. Permit limits are set to meet water quality based effluent guidelines or technology based effluent guidelines. For renewals in particular, previous permit limits are considered. Permit limits are developed for each receiving stream based on which of these three criteria is the most stringent:

- Technology based effluent limitations (TBELs), which are federal guidelines for certain categories of dischargers, as determined by U.S. EPA. U.S. Steel is categorized under iron and steel manufacturing and metal finishing. Technology based limits for these categories are production-based and calculated in mass (pounds per day).
- Water quality based effluent limitations (WQBELs), which are state guidelines for the quality of the receiving stream and applied when there is a reasonable potential for the levels of pollutants to exceed state water quality standards. These limits take into consideration stream flow, discharge flows, hardness, pH and stream background concentrations.
- Previous permit limits.

**What is a point source?** NPDES permits limit the amount of pollutants that a facility can discharge from any point source. Examples of a point source include: pipes, ditches, channels, tunnels, conduits, wells and landfill leachate collection systems.

**What is a pollutant?** Pollutants are grouped into three general categories: conventional; toxic; and non-conventional.

- Conventional pollutants include: 5-day biochemical oxygen demand (BOD5); total suspended solids (TSS); pH; E. coli; and oil and grease.
- Toxic pollutants include: metals and manmade organic compounds.
- Non-conventional pollutants don't fall under either of the above categories and include: ammonia, nitrogen, phosphorus, and chemical oxygen demand.

**What is a pollutant of concern?** A pollutant of concern is a pollutant that is reasonably expected to be present in a discharge, based on the source and the nature of the discharge.

**What is process wastewater?** Water that comes into contact with or results from the production or use of a raw material, intermediate product, finished product, byproduct or waste product.

**What is a production-based standard?** Limits that are related to some measure of operation, such as production or effluent flow. A production based limit is expressed in terms of pollutant mass allowed in a discharge per unit of product manufactured.

**What is projected effluent quality (PEQ)?** A calculated effluent value based upon the number of effluent samples. This value is compared to a projected effluent limit in the reasonable potential procedure. If the PEQ exceeds the projected effluent limit (PEL), then a numeric limit is required in a permit.



**What is reasonable potential to exceed (RPE)?** After developing both the PEQ and the PEL, if it's determined that a pollutant is or may be discharged into the Great Lakes system at a level that will cause or have the reasonable potential to cause or contribute to an excursion above any applicable narrative criterion or numeric water quality criterion under 327 IAC 2-1.5, the commissioner shall incorporate water quality based effluent limitations (WQBELs) in a permit that will ensure compliance with the criterion or value.

**What is a receiving water?** A receiving water is a water of the United States into which a regulated wastewater or storm water discharges.

**What is a storm water pollution prevention plan (SWPPP)?** The SWPPP describes the activities at the site used to prevent storm water contamination, control sedimentation and erosion, and comply with the requirements of the Clean Water Act. The SWPPP is intended to document the selection, design, installation and implementation (including inspections, maintenance, monitoring and corrective action) of control measures being used to comply with the effluent limits set forth in the permit. In general, the SWPPP must be kept up-to-date and modified whenever necessary to reflect any changes in control measures that were found to be necessary to meet the effluent limitations in the permit.

**What is a surface water?** Generally, a stream or lake, although wetlands are also considered surface waters.

**What are treatment-technology based standards:** See "What are technology based effluent limitations (TBELs)?"

**What are technology based effluent limitations (TBELs)?** Established by the federal government, TBELs are the minimum level of treatment required for certain categories of industrial or municipal facilities using available technology. Accordingly, each member of a discharge class or category is required to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices. To date, U.S. EPA has established TBELs for more than 50 different industrial categories, including iron and steel making operations.

**What is a total maximum daily load (TMDL)?** A TMDL specifies the maximum amount of a pollutant that a stream or lake can receive and still meet water quality standards, and allocates pollutant loadings among point sources and nonpoint sources.

**What is a toxic pollutant?** See "What is a pollutant?"

**What is a wasteload allocation?** Used to develop limits based on the pollutants that have been detected in the discharge and the receiving water's characteristics. A wasteload allocation is the proportion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution.



**What are water quality based effluent limitations (WQBELs)?** These are limitations established by Indiana to ensure discharges do not cause a violation of state water quality standards. In Indiana, state water quality standards are found under the Indiana Administrative Code at 327 IAC 2-1 and standards that specifically address waters within the Great Lakes Basin are found at 327 IAC 2-1.5.

**What is water quality criteria?** These are state and federal water quality standards comprised of both numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by U.S. EPA or states for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal, such as “high-quality water,” or “swimmable,” “fishable,” and “drinkable.”

**What is a water quality standard?** A water quality standard is a law or regulation that establishes the “beneficial use or uses” of a stream or lake, the numeric or narrative water quality criteria that are necessary to protect the use or uses, and an antidegradation statement.

**What is whole effluent toxicity (WET) testing?** Whole effluent toxicity (WET) testing is sampling to determine the total toxic effect of an effluent.

**Where can I find additional information?** IDEM and U.S. EPA provide general information online. For an overview of IDEM's NPDES permitting program, visit [www.idem.IN.gov/4894.htm](http://www.idem.IN.gov/4894.htm). For IDEM featured topics, visit [www.idem.IN.gov](http://www.idem.IN.gov). For information about the NPDES program, visit U.S. EPA's Web site at [http://cfpub.epa.gov/npdes/home.cfm?program\\_id=45](http://cfpub.epa.gov/npdes/home.cfm?program_id=45). For U.S. EPA's summary of NPDES Permit Program Frequently Asked Questions (FAQs), visit [http://cfpub.epa.gov/npdes/faqs.cfm?program\\_id=45](http://cfpub.epa.gov/npdes/faqs.cfm?program_id=45).

