

Industrial Process Wastewater Generators - Classifications and Exclusions

As defined in North Carolina General Statute NCGS 130A-334, industrial process wastewater, hereafter referred to as IPWW, “means any water-carried waste resulting from any process of industry, manufacture, trade, or business.” In addition, NCGS 130A-336(c) states: “Unless the Commission otherwise provides by rule, plans and specifications for all wastewater systems designed for the collection, treatment, and disposal of industrial process wastewater shall be reviewed and approved by the Department prior to the issuance of an authorization for wastewater system construction by the local health department.”

The On-Site Water Protection (OSWP) Branch is responsible for reviewing and approving plans and specifications for the disposal of process generated wastewater to a subsurface system. The OSWP Branch provides guidance to applicants, consultants as well as local and state agencies for the design, review, approval, operation, inspection and maintenance of on-site wastewater disposal systems which discharge IPWW. There are numerous IPWW generator categories having various effluent characteristics and wastewater strengths.

Facilities engaged in similar activities produce effluent of similar and relatively consistent constituent and strengths. The review and approval of designs, plans and specifications for some generators may be delegated to the appropriate local health department (LHD) personnel based on effluent quality, wastewater strength, treatment components and site characteristics. Wastewater generators that discharge effluent with domestic-only characteristics and strength may not require review by the State if advanced or specialized wastewater system components are not incorporated in the design.

Proposed submitted to LHDs will be reviewed on a case-by-case basis by OSWP to determine whether State review is required. Once a determination has been made by OSWP, the LHD will be provided guidance indicating the degree of further State involvement in the review and approval process. Facilities that generate domestic-only wastewater, with no process-wastewater being introduced to the wastewater stream, are typically excluded from IPWW requirements. Some facilities (e.g. hair salons, commercial laundries, and tattoo parlors) are typically considered to generate domestic-only wastewater. Other facilities, such as restaurants and grocery stores, are typically not considered to generate wastewater IPWW although the effluent may be classified as high-strength wastewater and may require additional pretreatment.

Definitions

- a. “Industrial Process Wastewater” means any wastewater generated during the processing, manufacturing, trade or business, of any raw material, intermediate product, finished product, by-product or waste product.
- b. “Industrial Process Wastewater System” means the system of collection, pretreatment and disposal of industrial process wastewater.
- c. “Pretreatment” refers to the reduction of the amount of pollutants, the elimination of pollutants or the alteration of the nature of pollutant properties in wastewater prior to discharge to the sanitary system of sewage treatment and disposal.
- d. “Wastewater” means the liquid and water-carried industrial and domestic wastes from dwellings, commercial buildings, industrial facilities, mobile sources, treatment facilities and institutions, together with any groundwater, surface water and storm water that may be present.

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IPWW Facilities Classification

The generated wastewaters which fall into the following categories are classified as IPWW:

- a. Any process of industry or manufacture, or from the development of any natural resources (e.g., mining, oil and gas, pulp and paper, etc.).
- b. Processes of trade or business including but not limited to wastewater from: dental and medical offices; shopping centers; exterior vehicle washes; animal processing facilities; food processing plants; laboratories (medical, commercial and institutional); funeral homes; mortuaries; incinerators; and film processing operations.
- c. Emergency response operations such as fire departments and EMT facilities.
- d. Filter backwash systems.
- e. The processing, conditioning, or cleaning of agricultural products.
- f. Cooling tower and boiler blow-down water.
- g. Effluent from the treatment or conditioning of surface water or groundwater;
- h. Operations dealing with the non-agricultural care of animals (e.g., veterinarians, dog kennels, horse farms, etc.).
- i. Any combination of sewage and IPWW.

The generated wastewaters which fall into the following categories are typically not considered IPWW when the effluent characteristics are similar in nature to domestic wastewater:

- a. Industries and businesses where the wastewater effluent is generated from fixtures such as hand-wash lavatories, showers, toilets, and urinals. *This type of wastewater is regulated under current sewage rules*
- b. Restaurants and food handling establishments. *This type of wastewater may be high-strength and is regulated under current sewage rules.*
- c. Home-based businesses where the IPWW contributes no more than one-third of the total wastewater flow discharged and exhibits domestic-only wastewater characteristics.
- d. Hair, nail and make-up salons (exclusive of spas and body treatment facilities).
- e. Coin-operated laundromats without discharge from dry cleaning operations.
- f. Tattoo and piercing parlors.

Categories of generated wastewaters that are prohibited from discharging to a subsurface wastewater system include wastewaters containing:

- a. Chemicals exhibiting excessive pH ranges, (i.e., $\text{pH} < 4.0$ or $\text{pH} > 10.0$), shall not be introduced into the subsurface disposal system. Unless the pretreatment system is specifically designed to accommodate such a discharge, waste streams with a pH of less than 6.0 or greater than 9.0 will not be discharged. No substances that would cause corrosive structural damage shall be discharged.
- b. Substances that interfere with the biological degradation processes of the system pretreatment components shall not be introduced into the subsurface disposal system without appropriate pretreatment. Constituents in this category would include antiseptics, antibiotics, preservatives and fixing agents.
- c. Excessive concentrations of salts, i.e., sodium, calcium, potassium.
- d. Substances that pass through the system and endanger underground sources of drinking water.
- e. Constituents exhibiting a fire or explosion hazard.
- f. Hazardous wastes, as defined by NCGS 130A-290 (8), shall not be introduced into the onsite system.
- g. Constituent concentrations that are in excess of the best available technology (BAT) industry specific standards developed for dischargers to surface waters.