

TPWD Comments on Plastics Resin Pellets Limits in TPDES Permits for TCEQ

TPWD is very supportive of the proposal to include prohibitions in industrial TPDES permits on the release of plastic particulates of any size into the environment. In addition to the inclusion of this language into the final permit, TPWD supports the inclusion of questions on the permit applications as to the anticipated use, production, or transport of plastics in their activities. If the applicant indicates plastics will be used or manufactured on-site, it would be important to capture the type of plastic such as HDPE, LDPE, etc. This would enable TCEQ to develop an inventory of those entities who have or will have plastics on-site in advance of the permit being issued. One of the biggest problems associated with pellets once they are released into the environment is the identification of the source of the release. Knowing the type of plastic an entity will use enables better identification of potential sources.

1. Please provide input on the following proposed definition of plastic (taking into consideration the focus on pre-production plastic): Plastic means all forms of ~~visible~~ plastic produced, received, or handled at the permittee's facility, including but not limited to: pellets, powder and flakes.

TPWD encourages the inclusion of a definition list in the plastics section of the permit application or permit. Such terms as pellet (or nurdle), powder, flake, regrind (an industry term used to describe the leftover bits after production and is used in other state guidelines in defining plastics). Size classes of plastic particles should be included in this list:

Macroplastics: >5mm. While often used in reference to plastic trash such as bottle caps, in this context it could include powder that may be compressed into bar or cake form, so essentially chunks of plastic particles pressed together. When released into the environment, these chunks breakdown to much smaller size classes of plastic particulates.

Microplastics: 0.05 mm (50µm) - 5 mm. Pellets or nurdles fall in this size class.

Nanoplastics: 1 nm – 1000 nm (.001 µm - 1 µm). While these particles are not typically visible to the naked eye, they are extremely problematic when released into the environment and affect may base organisms of the food web. They can also accumulate in sediments and be resuspended.

2. TCEQ's intent is to regulate plastics visible to the naked eye, but please provide input on class sizes for our review. Additionally, please provide input on the use of the word "visible" in the definition above.

All sizes of plastic particles from nanoplastics to microplastics to macroplastics should be included and defined in the permit language.

As stated above, there are circumstances where all size classes could occur on-site at a facility. We understand this provision is not referencing plastic "trash", however, that should not be being released either. Trying to tie permit compliance to terms like "visible" creates confusion and potential loopholes for unauthorized releases. Being clear that industrial plastic production product in all its forms is what is being controlled should provide the clarity of what is enforceable.

3. In addition to the prohibition, permittees with stormwater outfalls under the Multi-Sector General Permit or an individual permit will be required to develop a comprehensive set of Best Management Practices to include within their Stormwater Pollution Prevention Plan. Please provide input to assist with the identification of effective BMPs and potential sources of information such as “Operation Clean Sweep”.

TPWD supports the initiatives of Operation Clean Sweep and encourages all facilities to employ these practices among others to prevent the release of plastic particles into the environment. The applicant should consider incorporating best management practices (BMPs) in their facility management and operation plans to minimize indirect adverse effects from accidental release of plastics.

(1) Containment systems should be installed at all onsite storm drain discharge locations that are down-gradient of areas where preproduction plastic is present or transferred. A containment system is a device or series of devices that traps all particles retained by a mesh screen and has a design treatment capacity to handle rainwater flows from large episodic storms in Texas. The containment system should be designed to trap the smallest plastic material handled at the facility.

(2) At all points of preproduction plastic storage and transfer, preproduction plastic should be stored in sealed containers that are durable enough so as not to rupture under typical loading and unloading activities.

(3) Capture devices should be placed under all transfer valves and devices used in loading, unloading, or other transfer of preproduction plastic.

(4) An incident response plan should be developed to ensure the proper cleanup of pellets if there were to be an accidental spill to minimize dispersal into the environment.

(5) Ensure there is a vacuum or vacuum type system, for quick cleanup of fugitive preproduction plastics throughout the facility.

(6) All physical BMPs must be maintained in order to work when needed. If an inspection turns up a screen/filter that's full or worn out, it must be fixed before the next rain in order to work. While this sounds logical, it doesn't always happen in the real world.

For more information about guidelines to help plastics industry operations managers reduce the accidental loss of pellets, flakes and powder from the processing facility into the environment see <https://www.opcleansweep.org/wp-content/uploads/OCS-Manual.pdf> developed by the Plastics Industry Association (PLASTICS) and The Plastics Division of the American Chemistry Council (ACC).

4. Please provide input on additional requirements such as: outfall and receiving water inspections, notification of spills and unauthorized discharges to Regional Office, recovery of released materials from receiving waters, and clarification that the point of compliance for the prohibition on the discharge of plastic is at the final outfall.

TPWD has concern for impacts caused by the accidental release of pellets into the environment. Marine transport of pellets, flakes and powder requires special attention due to the high potential for release into the environment. Most trash capture BMPs developed, such as catch basin inserts, are not designed

to capture resin pellets and smaller particles. Booming of accidental released pellets into waters of the US will only help contain the spill if Low Density Polyethylene (LDPE) is the source because it floats in water however, High Density Polyethylene (HDPE) will sink and not be contained.

Stormwater screen/filtration systems need to be designed to handle rainwater flows from the large episodic storms in Texas. It's not unusual for BMPs that can handle most rains to be overwhelmed by 3 or more inches of rain falling in a couple hours, resulting in an illegal discharge to surface waters.

In order for screen/filtration systems to be effective, it's important to know specifically what type of plastics will be produced. Some float and some sink in water. For instance, Low Density Polyethylene (LDPE) floats in water but High Density Polyethylene (HDPE) sinks, so the filters/screens need to be able to capture them at the top or bottom of the flow. Also, flakes and powders may act differently than nurdles.

The permit should require all facilities to inspect internal and external outfalls and have these inspection reports available for review during the TCEQs Compliance Inspections. These inspections should include sites where the plastics are transferred and/or stored.

5. TCEQ is requesting stakeholder input regarding additional time to comply with the prohibition on the discharge of plastic. The Texas Surface Water Quality Standards allow up to a three-year compliance period. TCEQ is proposing that requests for a compliance period must justify the need for additional time including a construction schedule to install new control structures or retrofitting existing systems to achieve compliance. If approved, the compliance period will include submission of quarterly progress reports.

TPWD supports the implementation of this new language on the unauthorized release of plastics be included and adhered to immediately upon inclusion in permits. The need to a three-year compliance period is unnecessary when good housekeeping and no release of plastics should be a current component of every facility management plan. TPWD supports a requirement that any request for a compliance period be justified and should include submission of quarterly progress reports.