NPDES
National Pollutant Discharge Elimination System

Storm water discharges are generated by runoffs from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events that often contain pollutants in quantities that could effect water quality. Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into water within the United States. Point sources are discrete conveyances such as pipes, or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need a NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Environmental Protection Agency (EPA) controls stormwater and sewer overflow discharges through its NPDES. In most cases, the NPDES permit program is administered by authorized states. EPA is the permitting authority in five states and most territories and Indian Country lands.

Most stormwater discharges are considered point sources and require coverage by an NPDES permit. The primary method to control stormwater discharges is through the use of BMP systems.

Phase I NPDES

1. Developed by EPA in 1990 in response to the 1987 amendments to the Clean Water Act
2. Covered incorporated municipalities with separate storm water system (MS4s) (municipal separate storm sewer system) or counties with populations of 100,000 or more
3. 11 categories of industrial activity
    a. Construction activity that disturbs 5 acres or more of land
    b. Manufacturing facilities
    c. Hazardous waste treatment, storage, or disposal facilities
    d. Landfills
    e. Certain sewage treatment plants
    f. Recycling facilities
    g. Power plants
    h. Mining operations
    i. Some oil and gas operations
    j. Airports
    k. Certain other transportation facilities

Phase II NPDES

1. Published by EPA 12/8/99
2. Includes small MS4s not already covered under Phase I., including federally owned facilities such as military bases.
3. Small MS4s included in the definition of an urbanized area (a land area comprising of one or more places – central place(s) – and the adjacent densely settled surrounding area – urban fringe – that together have a residential population of at least 50,000 and an overall population density of at least 1,000 population per square mile
4. Industrial activities have been broadened to include
    a. Discharges from industrial plant yards
    b. Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products used or created by the facility,
    c. Material handling sites
    d. Refuse sites
    e. Sites used for the application or disposal of process waste waters (as defined at 40 CFR 401)
    f. Sites used for the storage and maintenance of material handling material
    g. Sites used for residual treatment, storage, or disposal
    h. Shipping and receiving areas
    i. Manufacturing buildings
    j. Storage areas (including tank farms) for raw materials, and intermediate and finished products,
    k. Areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water

EPA is looking at Phase II more comprehensively today for tomorrow's guidelines

TMDL

Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's source.

Water quality standards are set by States, Territories, and Tribes. They identify the uses of each waterbody, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use.

A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation also must account for seasonal variation in water quality.

The Clean Water Act, section 303, establishes the water quality standards and TMDL programs.

Approved Pollutant Types

- Sediments
- Pathogens
- Nutrients
- Metals
- Dissolved Oxygen
- Temperature
- PH
- Pesticides
- Mercury
- Organics