



U.S. Environmental Protection Agency – November 2004
Compliance and Enforcement National Priority:
Clean Water Act, Wet Weather, Sanitary Sewer
Overflows

The United States Environmental Protection Agency (EPA) Office of Enforcement and Compliance Assurance (OECA) has established national priorities for federal fiscal years (FY) 2005 through 2007. OECA and the EPA's 10 Regions will make the following issues priorities for monitoring, compliance assistance, enforcement and cleanup actions over the next three years:

1. Clean Air Act: Air Toxics
2. Clean Air Act: Prevention of Significant Deterioration and New Source Review
3. Tribal
4. Clean Water Act: Wet Weather, including:
 - Concentrated Animal Feeding Operations
 - Combined Sewer Overflows
 - Sanitary Sewer Overflows
 - Storm Water
5. Resource Conservation and Recovery Act: Mineral Processing and Mining

After evaluating the Safe Drinking Water Act (SDWA) Microbial Rules as a national priority, the Agency determined that it was more appropriate to address the microbial non-compliance problems, which occur predominately at very small drinking water systems, through the SDWA core program. The Petroleum Refining national priority is near completion and will be assessed during the coming year to determine if sufficient progress has been made to return this priority to the core program.

Four environmental challenges that are exacerbated by wet weather were chosen as Clean Water Act (CWA) national enforcement and compliance priorities for FY 2005 through FY 2007. They are concentrated animal feeding operations, combined sewer overflows, sanitary sewer overflows and storm water runoff. Like the other national priorities, they were selected because they met the selection criteria: (1) increased national attention could lead to significant environmental benefits; (2) there were patterns of non-compliance; and (3) EPA was well-suited to take action in this strategy area.

The Sanitary Sewer Overflow strategy summary that follows provides clear goals to achieve maximum compliance with environmental regulations in order to protect human health and the environment.

Background

Properly designed, operated, and maintained sanitary sewer systems are meant to collect and transport sewage to a publicly owned treatment works (POTW). However, releases of raw sewage from municipal sanitary sewers can occur. Sanitary sewer overflows (SSOs) often pose

a substantial risk to public health and the environment and may be caused by poor management of a sewer collection system.

The main pollutants in raw sewage from SSOs are bacteria, pathogens, nutrients, untreated industrial wastes, toxic pollutants, such as oil and pesticides, and wastewater solids and debris. The untreated sewage from overflows can contaminate waters, causing serious water quality problems. Such overflows may also occur in areas frequented by the public, such as parks, city streets and backyards. In addition, sewers can also back up into homes and commercial and industrial establishments, causing property damage and threatening public health. SSOs, which contain raw sewage, can carry bacteria, viruses, protozoa helminths (intestinal worms) and borroughs (inhaled molds and fungi). The diseases they may cause range in severity from mild gastroenteritis to life-threatening ailments, such as cholera, dysentery, infectious hepatitis and severe gastroenteritis.

SSOs have a variety of causes, including but not limited to severe weather, improper system design, poor management, operation and maintenance and vandalism. Chronic SSOs may be due to:

- *Infiltration and inflow problems* - too much rainfall or snow melt infiltrating through the ground into leaky sanitary sewers that were not designed to transport rainfall or to drain property;
- *Inadequate planning for growth* - sewers and pumps are too small to carry sewage from newly-developed subdivisions or commercial/industrial areas, or wastewater treatment plants lack sufficient capacity to treat the volume of sewage;
- *Pipe failures* - blocked, broken, cracked or collapsed pipes, which can be caused by such things as grease accumulations, tree roots growing into the sewer, sections of pipe that settle or shift so that joints no longer match, sediment and other material build-up;
- *Equipment failures* - pump or power failures with inadequate back-up systems; and
- *Deteriorating sewer systems* - improper installation or improper or deferred maintenance can create widespread problems that can be expensive to fix over time.

Some municipalities have found severe problems necessitating billion-dollar correction programs, while others have had to curtail new development until problems are corrected or system capacity is increased.

Environmental Problems

Reduction of the high number of SSOs each year and the adverse effects they cause on human health and the environment could result in significant public health and environmental benefits. EPA believes this problem can be relieved through proper management and renewal of sewer infrastructure. Empirical data indicate a significant non-compliance problem in sanitary sewer systems with overflows; the SSO strategy is intended to address the problem through the use of compliance assistance, compliance incentives and, in some cases, enforcement actions.

While a large number of SSO investigations and cases originate with the states, the federal role remains significant. In larger cases, the injunctive relief (i.e., the actions a regulated entity is

ordered to undertake to achieve and maintain compliance) may be in the hundreds of thousands of dollars and can be in excess of a billion dollars. Federal involvement is also warranted by the need to protect the public investment, including the significant federal investment, in wastewater infrastructure.

Goals

Goal 1: Protect public health and water quality on lands and in streams located in priority areas or watersheds, which include:

- sensitive areas designated as Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, public drinking water intakes or their designated protection areas, and shellfish beds;
- watersheds or communities with potentially significant environmental or human health impacts due to wet weather non-compliance problems, such as stream segments that are identified on 303(d) lists as being impaired waters, where that impairment may be partially caused by wet weather sources;
- areas that have known impacts such as shellfish harvest restrictions, beach advisories or fish kills;
- environmental justice areas as defined by applicable EPA guidance, where non-compliance may result in environmental or human health concerns; and
- communities where frequent and recurring SSOs are resulting in human exposure to raw sewage through basement backups or overland spills.

Goal 2: Protect the public investment in wastewater infrastructure by ensuring municipal collection systems have sufficient capacity and use proper asset management, operation and maintenance principles.

Ensuring compliance with all relevant CWA requirements will be achieved by providing compliance assistance and incentives, monitoring compliance and targeting enforcement actions as appropriate.

Strategy

1. EPA will target at least 75 percent of federal SSO enforcement actions, compliance assistance and incentive activities toward municipal collection systems located in priority watersheds and communities.
2. Complete initial inventory of all municipal collection systems located in priority watersheds and communities.
3. All major municipal collection systems with an associated total treatment capacity of greater than 100 million gallons per day (mgd) and their associated satellite municipal collection systems will have or be on an enforcement schedule to have collection systems of adequate capacity. Those that are not will be the subject of formal enforcement action.
4. Of the municipal collection systems with an associated total treatment capacity of greater than 10 mgd but less than 100 mgd and their associated satellite municipal collection

systems, 10 percent will have or be on an enforceable schedule to have collection systems of adequate capacity. Mechanisms must be in place to ensure the provision of additional capacity commensurate with the increase in flow. Additional capacity may be provided through preventative maintenance and cleaning programs or the construction of relief sewers, pump stations, etc.

5. EPA Regional Offices will complete annual work plans and reports on their progress. Adjustments to work plans will be based on information from the previous year.

Performance Measures

Treatment works with the largest capacity in priority watersheds will receive concerted Federal and state compliance assistance and enforcement activity. As facilities are addressed and show progress in achieving compliance with the CWA, the need to focus enforcement resources on SSOs will decrease. When the following criteria are met, the SSO wet weather priority should be changed to an element of the core program.

- All of the major municipal collection systems with a total treatment capacity of greater than 100 mgd (and their associated satellite municipal collection systems) and 30 percent of the municipal collection systems with a total treatment capacity of greater than 10 mgd but less than 100 mgd have collection systems of adequate capacity with mechanisms in place to ensure that additional capacity is provided or they are on an enforceable schedule to do so.
- All of the other smaller municipal collection systems causing identifiable and significant public health impacts or impairing water quality have been addressed.

It is expected that the core program will provide for continued compliance assistance and enforcement effort in the SSO community. Although state capacity in this area may continue to grow with a subsequent increased reliance on state effort, it is expected that the federal government will maintain an active enforcement program.