



## **U.S. Environmental Protection Agency - October 2007 FY08 - FY10 Compliance and Enforcement National Priority Clean Water Act, Wet Weather, Sanitary Sewer Overflows**

### **What is the Environmental Problem?**

Properly designed, operated, and maintained sanitary sewer systems are meant to collect and transport all of the sewage that flows into them to a publicly owned treatment works (POTW) for treatment. However, releases of raw sewage from municipal sanitary sewers can occur in these systems. These types of releases, called sanitary sewer overflows (SSOs), may be caused by poor sewer collection system management, and often pose a substantial risk to public health and the environment.

The main pollutants in raw sewage from SSOs are bacteria, viruses, pathogens, excessive nutrients, industrial wastes, toxic pollutants such as oil and pesticides, and wastewater solids and debris. SSOs are of special concern to public health because they expose citizens to bacteria, viruses, intestinal parasites, and other microorganisms that can cause serious illness such as cholera, dysentery, hepatitis, cryptosporidiosis, and giardiasis. Sensitive populations - - children, the elderly and those with weakened immune systems - - can be at a higher risk of illness from exposure to sewage from SSOs.

The most common effects of sewage-related illness are gastroenteritis, which is an infection of the gastrointestinal tract, skin rashes, and infection of open cuts. Gastroenteritis affects the entire gastrointestinal tract, including the stomach and small and large intestines. Symptoms typically include abdominal cramps, watery diarrhea and vomiting which can last from one to ten days, depending on the severity of the illness and the sensitivity of the individual. Infected cuts and rashes can become swollen and red, and in some cases can result in septicemia or blood poisoning. Although symptoms can be treated, no curative medical treatment is available for some sewage-related illnesses.

The untreated sewage from SSOs can contaminate waters, in some cases causing serious water quality problems and threats to public health. SSOs may also occur in basements, parks, recreational streams, beaches, on city streets and backyards, and other areas where people are in close contact with the overflow. The public can be exposed to raw sewage from SSOs through street flooding, recreational contact such as swimming and fishing, drinking contaminated water and collection system back-ups into homes. It is important to note that the threat to public health and the environment posed by SSOs is not necessarily limited to large volume or extended-duration overflows. Some of the greatest threats from SSOs stem from viruses and pathogens which can present a public health threat even in small volume, intermittent overflows.

### **Why is EPA Addressing the Problem?**

The non-compliance universe of municipal authorities experiencing SSOs is constantly being updated. However, empirical data indicate that there is a significant non-

compliance problem. EPA estimates that nationally there may be 25,000 to 89,000 SSOs each year. Further, it is estimated that there are anywhere from 3 to 10.6 billion gallons of SSO discharges per year. [*The 2004 Report to Congress on the Impacts and Control of CSOs and SSOs (2004 RTC).*]

Because of the **estimated** high number of SSOs occurring each year, and the adverse effects on public health and the environment and the current level of impaired waterways, the focus on reduction or elimination of SSOs **could** result in significant benefits to public health and the environment. EPA believes the number of SSOs can be dramatically reduced through proper management, operation, and renewal of sewer infrastructure.

The federal government has an interest in the protection of public health and in the condition of the U.S. infrastructure of collection systems and sewage treatment capacity. Many of the systems were built with federal dollars. The federal government has the ultimate responsibility for writing permits for sewage treatment plant discharges and must also ensure compliance with the NPDES program and with individual / general permits.

### **How Will The Problem Be Addressed?**

SSOs have a variety of causes, including but not limited to severe weather, improper system design and/or inadequate capacity, improper management, operation and/or maintenance, and vandalism. Of these causes, the most common related to SSOs are inadequate capacity, improper management, and improper operation and maintenance of sanitary sewer collection systems. In FY 2008 - FY 2010, EPA and the States will continue to address these problems using various derivatives of the capacity, management, operation and maintenance (CMOM) concept which encourages the use of self-assessments and pro-active correction of system deficiencies to avoid further deterioration of the sanitary sewer infrastructure and resultant SSOs. In some cases, EPA and the States will use a combination of administrative and civil judicial enforcement action to achieve these goals.

### **Highlights from the FY 2005-2007 Planning Cycle**

One of the primary goals under the first cycle of the strategy (FY2005-FY2007) was to protect the public investment in wastewater infrastructure by ensuring municipal collection systems have sufficient capacity and use proper asset management, operation, and maintenance practices. EPA and the states made a great deal of progress in the first cycle addressing many of the medium and large municipal authorities targeted under the strategy. For example, EPA issued 31 administrative compliance orders for SSOs during the first cycle of the strategy. In addition, EPA concluded 16 SSO judicial case settlements during the first cycle of the strategy. States have been co-plaintiffs in the vast majority of these cases. The injunctive relief required by three of these judicial case settlements alone will result in the reduction of SSOs estimated at 290 million gallons annually (Louisville, KY (218 MG); Los Angeles, CA (46 MG); Washington Suburban Sanitary Commission, MD (26 MG)).