



x. SSMP Program Audits

SSMP Program Audits: As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

Audit and benchmarking programs are among primary City strategies in accomplishing its mission to protect public health and the environment and meeting goals. As a part of the City's continuing performance measurement, the City's SSMP undergoes ongoing reviews at all levels of the organization having authorities and responsibilities in the SSMP implementation shown in Figure 2-1, Part ii, Organization, of this SSMP. These reviews culminate in internal (self) audits of the SSMP that result in biennial audit reports. As a part of these audits, all parts and sub-parts of the SSMP are reviewed critically with regards to their ability to effectively and efficiently meet the State General Waste Discharge Requirements (GWDR), comply with City policies, and provide excellent community service. In addition to these self-audits, the City may engage outside entities to independently review and assess the SSMP performance once every five (5) to 10 years as appropriate.

Each year as a part of a Five-Year Strategic Planning process, the SSMP goals are set; deliverables that are required to meet goals defined and prioritized; the lead and support offices and resources necessary to complete deliverables assigned; and progress measured and reported on an ongoing basis to ensure full and timely completion of deliverables. Any gaps between targeted results and actual progress are identified or anticipated and mitigation measures developed and implemented to close or avoid any performance gaps. The overall SSMP performance is evaluated and reported to management quarterly and annually following the end of each fiscal year. Any plan updates necessary to enhance the SSMP performance are identified and included as a part of the following year's Five-Year Strategic Planning process.

Performance measures and benchmarks are established and through ongoing performance review, experienced personnel audit the SSMP at least once every two years by evaluating the effectiveness of each SSMP Part and Sub-part and making recommendations for improvements and updates as appropriate. The SSMP is updated by incorporating adopted recommendations. Audit reports and related materials are maintained in a comprehensive hard copy and electronic document tracking and management system.

The following are examples of ongoing self-monitoring and plan modification:

- Overflow Emergency Response

Staff and managers meet regularly to review emergency response actions and collaborate on methods and procedures that will improve performance. Performance standards are developed, published and communicated. Actual response times are compared to standards; changes are made and documented and staff retrained as appropriate.

- Hydraulic Performance Monitoring

The City monitors and evaluates the hydraulic performance of the entire system. Automatic “real time” flow monitors including radio transmission of data to a central location are placed at strategic locations in the 650-mile primary sewer system (sewers larger than 15 inches in diameter). These real-time monitors are augmented by tens of “near-time” monitors in the primary system. In addition, flow is measured at over 600 maintenance holes at strategic locations throughout the City’s secondary sewer system (sewers equal to or smaller than 15 inches in diameter) on either a quarterly, semi-annual, or annual cycle. This data is compared to historical flow level data. Any unusual change in flow depth is investigated to determine the cause and if a blockage is found it is immediately removed. When the unrestricted flow reaches a predetermined “trigger flow” depth, a planning study will be initiated to clearly define the problem; evaluate future needs; and develop, evaluate and recommend alternatives to provide required relief or replacement sewers. This system of data gathering coupled with the “trigger flow” concept ensures that planning is started in advance of need to ensure sufficient time is allowed for planning, design, and construction. Work priorities and the capital improvement projects schedules are adjusted based on a review of the system performance and needs.

- Hydraulic Models

The City has been an industry leader in using leading edge technology to model and assess the hydraulic performance of its complex network of pipes, diversion structures, flow splits, and pumping plants, and to predict future flow based on growth projections. Modeling was first used in the City in the 1980’s. The City is currently expanding the sewer modeling capability. In addition, the City recently implemented a new technology that will greatly improve the accuracy of wet weather flow prediction using radar generated instantaneous rainfall data. Historic data from the National Weather Service will be used to refine the accuracy of rainfall simulations used for assessing various historic storm impacts on the City’s collection system.

- Structural Condition Assessment

Nearly all of the City’s major interceptor and outfall system has been inspected by closed circuit television. Based on these inspections, the condition of each sewer in the system has been assessed and rated in a five-category condition ranking. The

ranking system is used to prioritize and schedule future inspections and rehabilitation or replacement planning studies. Changes are made to work priorities and project delivery schedules based on the findings of field investigations and criticality of system needs.

- Maintenance Management Approaches

The City takes a sewer shed based approach to maintaining its secondary sewer system with the goals of improving efficiency of its maintenance efforts and system performance. Priority is given to sewers within sewer sheds that return the most benefit for the maintenance effort. Data are accumulated on maintenance hot spots and displayed on GIS maps to display locations requiring additional attention. This information forms the basis for prioritizing cleaning, inspection, and rehabilitation. All maintenance holes are physically inspected biennially, all sewers cleaned on a maximum five year rotation, and operationally challenged sewers will be cleaned more often as needed. Each sewer shed is assigned to one of the City's eight maintenance yards. Very high but realistic standards are developed for each sewer shed and used to measure crew and system performance. This ongoing monitoring and adjustment process will work to optimize staff efficiency and system performance. The maintenance program is regularly reviewed for changes such as disconnection or new connections including restaurants and industrial users and priorities adjusted as appropriate. Effectiveness of root control is also monitored and changes to cleaning schedules made as needed.

- Sewer Design Criteria and Standard Plans and Specifications

The City has a long-established Sewer Design Manual that undergoes periodic review and updates to incorporate the latest advances in design and construction techniques as described in Part v, Design and Performance Provisions, of this SSMP. The Sewer Design Manual is maintained by the City's Bureau of Engineering that is in charge of design, construction, start-up and optimization of public works projects.

Design standards, specifications and standard details are continuously monitored for currency and effectiveness. Staff input based on field experience is provided and reviewed systematically. Appropriate changes are incorporated into the City's standards and work in progress as needed.

- Change in Construction Activities

In another effort to avoid SSO's, the City developed and implemented a requirement that a spill prevention and response plan has to be developed and implemented for all wastewater construction projects. This construction requirement is designed to eliminate SSOs caused by construction activities. Standard Plan 610 – 27 was developed to document the City's policy on no overflows related to construction activities and contractor activities.

References

City of Los Angeles Department of Public Works Bureau of Sanitation, A Five-Year Strategic Plan, Fiscal Years 2008/09 - 2012/13, Issued: June 2008

http://san.ci.la.ca.us/documents/strategic_plan/strategicplan08-09.pdf

QualServe™ Report of Peer Review Prepared for Los Angeles Bureau of Sanitation
Final Report – January 30, 2003

“Multi-Agency Benchmarking Project, Executive Summary, ”King County Department of Natural Resources, Technical Publications Unit, Publication 1282, September 20, 1999