

NPDES Compliance Inspection Manual

Chapter 12



EPA Publication Number: 305-K-17-001
Interim Revised Version, January 2017



CHAPTER 12 – COMBINED SEWER OVERFLOWS

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Related Websites

Office of Wastewater Management (OWM) home page: <http://www.epa.gov/owm>

Office of Enforcement and Compliance Assurance (OECA) home page:

<https://www.epa.gov/aboutepa/about-office-enforcement-and-compliance-assurance-oeca>

A. BACKGROUND AND HISTORY OF THE CSO POLICY

In addition to materials in this chapter, Inspectors must be familiar with Chapter 1, "Introduction," and Chapter 2, "Inspection Procedures."

EPA's 1994 Combined Sewer Overflow (CSO) Control Policy (Volume 59 of the *Federal Register* (FR) 18688 and 18689, April 19, 1994) defines a combined sewer system (CSS) as "a wastewater collection system owned by a state or municipality (as defined by section 502(4) of the Clean Water Act (CWA)) which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and stormwater through a single-pipe system to a Publicly Owned Treatment Works (POTW) Treatment Plant (as defined in Title 40 of the *Code of Federal Regulations* (CFR) Part 403.3(p))." During precipitation events (e.g., rainfall or snowmelt), the volume of sanitary wastewater and stormwater runoff entering CSSs often exceeds the capacity of the treatment works to treat it or the sewer system to store it until it can be treated. When this happens, these systems are designed to overflow directly to surface waters. These overflows are combined sewer overflows (CSOs). The CSO Control Policy defines a CSO as "the discharge from a CSS at a point prior to the POTW Treatment Plant." Approximately 746 communities in the United States have CSSs that together have 9,348 permitted CSO outfalls (i.e., the points from which the discharge leaves the CSS) that are regulated by 859 NPDES permits.

Some CSOs occur infrequently; others, with every precipitation event. Because CSOs contain raw sewage, industrial discharges, and urban stormwater, and contribute pathogens, solids, debris, and toxic pollutants to receiving waters, CSOs can create serious public health and water quality concerns. CSOs have caused or contributed to beach closures, shellfish bed closures, contamination of drinking water supplies, and other environmental and public health problems.

The CSO Control Policy "represents a comprehensive national strategy to ensure that municipalities, permitting authorities, water quality standards authorities and the public engage in a comprehensive and coordinated planning effort to achieve cost-effective CSO controls that ultimately meet appropriate health and environmental objectives and requirements" 59 FR 18688). Under the Policy, CSO communities were expected, through requirements in their NPDES permit or enforceable mechanism, to:

- Implement nine minimum controls (NMC) that may be considered minimum best available technology (BAT), best conventional pollutant control technology (BCT), or best professional judgement (BPJ) by the permitting authority. These NMC are measures that can reduce CSO volumes and frequencies, and their water quality impacts, without significant engineering studies or major construction. CSO communities were expected to implement the NMC with appropriate documentation as soon as practicable but no later than January 1, 1997.
- Develop and submit the long-term CSO control plan (LTCP) as soon as practicable, but generally within two years after the date of the NPDES permit provision, CWA section 308 information request, or enforcement action requiring the permittee to develop the plan. Implement the LTCP. Implementation of the individual CSO controls may be phased based on the relative importance of adverse impacts of the CSOs on water

quality standards and designated uses, priority projects identified in the long-term plan, and on the permittee's financial capability.

Select CSO controls that include a post-construction water quality monitoring program adequate to verify compliance with water quality standards and protection of designated uses as well as to ascertain the effectiveness of CSO controls. Permitting and enforcement authorities are expected to take enforcement action against dry weather CSO discharges, which have always been prohibited by the NPDES program.

The CSO Policy outlines the NMCs and the minimum elements of an LTCP. Table 12-1 lists the NMCs, while Table 12-2 lists the elements of the LTCP. The key elements to CSO control is to:

- Eliminate or relocate overflows that discharge to sensitive areas wherever physically possible and economically achievable, and where not possible, provide treatment necessary to meet WQS for full protection of existing and designated uses.
- Coordinate the review and appropriate revision of water quality standards and implementation procedures on CSO-impacted waters with development of long-term CSO control plans.
- Evaluate a reasonable range of alternatives for the CSO control plan that could achieve the necessary level of control/treatment, and select the controls to be implemented based on cost/performance evaluations.
- Develop an implementation schedule based on the relative importance of adverse impacts on WQS and designated uses, priority projects identified in the long-term plan LTCP, and on the permittee's financial capability.
- Maximize treatment of wet weather flows at the existing POTW treatment plant.

Since the CSO Control Policy was published, EPA has released guidance documents on the following implementation areas: long-term control plans, the nine minimum controls, screening and ranking, funding options, permit writing, financial capability and schedule development, coordinating long-term planning with water quality standards reviews, monitoring and modeling, and Post Construction Compliance Monitoring (see the "References" section and/or the CSO website <https://www.epa.gov/npdes/combined-sewer-overflows-csos> for more information).

In the Consolidated Appropriations Act for Fiscal Year 2000, Public Law (P.L.) 106-554, Congress amended the Clean Water Act by adding section 402(q) to require, among other things, that all permits, orders, and decrees issued to control CSOs, after enactment of the Consolidated Appropriations Act, shall conform to EPA's 1994 CSO Control Policy. EPA and state NPDES permitting authorities should refer to Section IV, Expectations for Permitting Authorities, of the Policy (59 FR 16905–16996). This section of the policy presents the major elements that should be in NPDES permits to implement the Policy and ensure protection of water quality.

State and EPA NPDES permitting authorities continue to work with permittees to incorporate CSO conditions into NPDES permits and through other enforceable mechanisms, such as administrative or judicial orders.

Table 12-1. Nine Minimum CSO Controls

- Proper operation and regular maintenance programs for the sewer system and the CSOs.
- Maximum use of the collection system for storage.
- Review and modification of pretreatment requirements to ensure that CSO impacts are minimized.
- Maximization of flow to the POTW for treatment.
- Prohibition of CSOs during dry weather.
- Control of solid and floatable materials in CSOs.
- Establishment of pollution prevention programs.
- Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
- Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Table 12-2. Elements of the Long-Term CSO Control Plan

- Characterization, monitoring, and modeling of the Combined Sewer System
- Public Participation
- Consideration of Sensitive Areas
- Evaluation of Alternatives
- Cost/Performance Considerations
- Operational Plan
- Maximizing Treatment at the Existing POTW Treatment Plant
- Implementation Schedule
- Post-Construction Compliance Monitoring Program

B. CSO INSPECTION PROCEDURES

Each municipality's specific CSO requirements will be contained in a NPDES permit, an enforcement order, a consent decree, or combination of these documents. CSO conditions will be specific to that permittee. However, the inspection of one CSS may involve visits to more than one municipality, depending on the configuration and possible shared responsibility for the system. Moreover, a CSS may be subject to several NPDES permits and/or enforcement orders or consent decrees. Before conducting the inspection, the inspector should determine the authorities responsible for operation of the system and define the scope of the inspection. The inspector will obtain information to determine compliance in the following areas:

- CSO prevention during dry weather.
- Implementation of the nine minimum CSO controls.
- Adherence to a schedule for development, submission, and implementation of a LTCP, including any interim deliverables.
- Adherence to schedule for implementation of the CSO controls selected from the LTCP.
- Elimination or relocation of overflows from identified sensitive areas, as defined in the approved LTCP.
- Meeting narrative, performance-based, or numerical water quality-based effluent limitations.
- Monitoring program, including baseline information on frequency, duration, and impacts of CSOs.

PREPARATION

As stated above, the requirements for CSO control will be found in the NPDES permit, or in some cases, in an enforcement order, such as an administrative order or judicial order, or a consent decree. Inspectors should review the permit (and permit amendments) and other enforceable mechanisms (e.g., consent orders) issued to the permittee. The inspector should be aware that in some cases the CSSs and CSO structures (i.e., pump stations) may be permitted separately from the POTW. The inspector may find:

- Requirements to implement and document implementation of technology-based controls (at a minimum, the nine minimum controls) by the date specified in the permit or enforceable mechanism.
- A requirement to submit a report documenting the implementation of the nine minimum controls; the report will usually be required within 2 years of permit issuance.
- Requirements for implementation of the Long-Term CSO Control Plan. Since the CSO Policy has been in place since 1994, all CSO communities should be implementing their LTCPs. LTCP, should have narrative requirements pertaining to the implementation, operation, and maintenance of the selected CSO controls described in the LTCP. There

will also be an implementation schedule for CSO controls either in the permit or in an appropriate enforceable mechanism.

- Water quality-based effluent limits for CSOs. Numeric limits may not be found in the initial permits when the permittee is developing or implementing its LTCP, but may instead include a requirement to immediately comply with applicable WQSs expressed in the form of a narrative limitation. Permittees that have completed and are implementing their LTCPs may include water quality-based effluent limitations in the form of one or more of the following permit conditions for CSOs:
 - A maximum number of overflow events per year for specified design conditions.
 - Minimum percentage capture of combined sewage by volume for treatment under specified design conditions.
 - Minimum percentage reduction of the mass of pollutants discharged for specified design conditions.
 - Other performance-based standards and requirements.
- Requirements to implement a post-construction compliance monitoring program. This will be required for permittees that have completed implementation of their LTCPs.
- Requirement to re-assess overflows to sensitive areas. This will only be imposed in those cases where elimination or relocation of CSOs from sensitive areas were proven not to be physically possible and economically achievable.
- Conditions establishing requirements for maximizing the treatment of wet weather flows at the treatment plant.

The inspector should also review any CSO reports submitted by the permittee. The permittee may have submitted information in response to CWA section 308 information collection requests. The permittee may have submitted CSO monitoring plans or a report characterizing its combined sewer system, a report documenting implementation of the nine minimum CSO controls, or a Long-Term CSO Control Plan. Other documents and/or information that should be reviewed, if available, include:

- Discharge Monitoring Reports (DMRs).
- Citizen complaints.
- Correspondence.
- Notices of Violation.
- Annual reports (including annual capacity reports).
- Facility reports describing CSO discharge points and overflow problems.
- Inspection reports.
- Noncompliance notification reports describing overflows (usually attached to DMRs).
- Maps or reports detailing the proximity of overflows to drinking water sources.
- Reports that describe the potential for CSO impacts to human health or the environment.

Reviewing these permittee reports will help the inspector become knowledgeable about the permittee's specific CSO problems and existing CSO controls. The inspector should make copies of those documents that 1) establish enforceable CSO requirements, 2) provide evidence that an enforceable requirement has been violated or 3) provide evidence of environmental problems related to CSOs. When reviewing the permit, it is also important to review the narrative language that might contain additional non-numeric requirements that may be enforceable, such as: proper operation and maintenance of the system (including the collection system); CSO discharges being free from odors or floatable materials; and CSO discharge not causing or contributing to water quality impairments.

The inspector should make sure that EPA has a complete copy of noncompliance notification reports for the last five years, indicating the date, time, duration, flow rate, cause, and actions to correct, prevent, and mitigate each overflow from the facility. The inspector should also have a map or other document that provides the location of each CSO discharge point and identifies the receiving stream to which the overflow discharges.

ON-SITE RECORDS REVIEW

The inspector should review the following CSO records:

- Logbooks, internal electronic data systems (e.g., operating and maintenance activity data systems, SCADA control system data), reports, or internal memos describing maintenance and operation activities concerning the sewer system and CSO outfalls.
- CSO outfall flow records.
- Monitoring data on CSOs, collection system, or receiving stream.
- Records pertaining to installation of CSO controls.
- Feasibility studies.
- Capital project summaries (description and cost of each project).

Recordkeeping requirements vary by facility depending on the specific CSO controls the facility has selected and is implementing. If the permittee has submitted a report documenting implementation of the nine minimum CSO controls, the inspector should review appropriate records kept at the facility to verify the information in this report. Table 12-3 lists examples of possible records that might be kept to document the implementation of the nine minimum CSO controls. These examples are provided as illustrations and not requirements. The inspector should use the facility's permit or other enforceable document as a guide to determine what specific records the facility is required to keep and maintain. The facility's CSO operations and maintenance manual and CSO control plan can provide the inspector with insight into the specific types of records the facility would have. In addition, many permittees maintain electronic systems to track complaints, responses, and operation and maintenance activities. The inspector should review these systems and other available information sources to identify potential issues such as recurring complaints (indicating improper operation and maintenance) or potentially unreported dry weather overflows.

Table 12-3. CSO Records

Minimum CSO Controls	Examples of Records/Documentation
Proper Operation and Regular Maintenance Program	<ul style="list-style-type: none"> • Standard Operating Procedures, Operations and Maintenance Manual, or similar manual or plan. • Log of sewer system cleaning, flushing, or debris removal. • Log of repair or maintenance of regulators. • Log of lift station malfunctions and repairs made. • Log of preventive maintenance of interceptor lift stations and pumps. • Work orders for corrective activities. • Log of inspections of lift stations, sewer lines, and regulators.
Maximum Use of Collection System for Storage	<ul style="list-style-type: none"> • Hydraulic study of system and evaluation of alternatives to maximize wet weather flow storage capacity. • Records of installation of in-line devices such as dams, regulators, and gates to retard flow. • Installation of separate sanitary and stormwater lines. • Replacement of undersized pipes. • Adjustment of regulator settings or upgrading/adjusting pumping rates at lift stations. • Off-line temporary storage.
Review and Modification of the Pretreatment Program	<ul style="list-style-type: none"> • Inventory of nondomestic discharges. • Public Water Supply records of water usage for top nondomestic dischargers. • Assessment of significance of nondomestic discharges on CSO and receiving waters. • Pretreatment controls to reduce/eliminate industrial contaminants during wet weather.
Maximization of Flows to the POTW for Treatment	<ul style="list-style-type: none"> • Summary of analyses conducted. • Maximum wet weather flow Wastewater Treatment Plant (WWTP) can receive without pass-through or interference. • Description of modifications to be implemented.
Prohibition of Dry Weather Overflows (DWOs)	<ul style="list-style-type: none"> • Log of inspections of CSOs during dry weather and observations made during these inspections. • Log of Dry Weather Overflow (DWO) reports submitted.
Control of Solids and Floatable Materials in CSOS	<ul style="list-style-type: none"> • Installation of screens or booms. • Source control activities such as regular street cleaning, highly visible anti-litter programs. • MS4 stormwater annual report.
Pollution Prevention	<ul style="list-style-type: none"> • Documentation of street sweeping, anti-litter campaigns.
Public Notification	<ul style="list-style-type: none"> • CSO outfalls are posted with correct signage. • Date and proof of public notice, procedure (by newspaper, radio), public notice information.
Monitoring of CSOs	<ul style="list-style-type: none"> • Identification of outfall locations (i.e., latitude and longitude or street address).

Table 12-3. CSO Records

Minimum CSO Controls	Examples of Records/Documentation
	<ul style="list-style-type: none"> • Number and location of overflow events including duration, volume, and pollutant loadings. • Receiving stream data and impact (e.g., beach closings, fish kills). • Monitoring plan.

INTERVIEWS

As with all of the NPDES compliance inspections, interviews with appropriate personnel with firsthand knowledge of CSS/CSO activities can be useful in obtaining factual information. The inspector should interview the person in the highest position of authority responsible for the day-to-day development or implementation of the LTCP. Other personnel, such as the collection crew or others involved in inspecting, operating, and maintaining CSOs or CSO controls should also be interviewed. It is particularly important that the inspector obtain written statements (see Chapter 2) where personnel are providing information that is not or cannot be substantiated by the facility's records or the inspector's own observations.

If the facility is developing or implementing a LTCP, the inspector may want to interview those personnel responsible for that plan. Generally, the facility will be under a schedule with distinct activities and milestones established. This schedule may be in the permit, but will more likely be in an enforcement order. Other schedules, such as those submitted by the permittee in a report or in its LTCP are not enforceable schedules, and should only be referred to if an enforceable schedule does not exist. The inspector should focus on verifying the LTCP development or implementation activities that 1) the permittee has reported have been developed/implemented and 2) the permittee was required to have developed/implemented according to a schedule in the permit or enforcement order.

The following are examples of relevant questions that the inspector can use to obtain a general understanding of the facility. Other questions relevant to the specific NMCs are listed in Table 12-4. The inspector should add to these questions based on the specific requirements in the facility's permit. For example, if the permit requires submission of a "CSO Characterization Report" within 180 days of the permit issuance, the inspector should request the report and verify whether it was submitted within the established timeframe.

- What type of technology is used to control CSO discharges? Describe regulator mechanisms used, including size, type, presence or absence of backflow devices, and location.
- Describe the system, identifying the older and newer facilities that are used.
- Which areas and percentage of the collection system are combined and which areas contain separate storm and sanitary systems? What sewer systems/communities are served by the treatment plant? Is the collection system gravity fed or are pumps used? If pumping stations are used, how many are there and where are they located?

- What flows does the municipality receive from other municipalities? Are these upstream systems combined sewer systems or separate sanitary systems? What kinds of overflow problems have the upstream municipalities reported? What agreements are in place establishing which municipality has authority and duty to maintain various parts of the sewer system?
- How many overflows have occurred in the collection system, including contributing jurisdictions, within the last five years?
- What is the most common cause of overflows?
- What is an estimate of the amount of rainfall or snowmelt needed to cause CSOs?
- Where are the CSO outfalls located? Are any located at pump stations? What receiving stream does each CSO discharge to?
- What is a typical monthly rate of CSO events (including dry and wet weather events)?
- What samples have been taken of overflows? (Ask to see sample results.)
- What steps is the municipality taking to comply with the CSO requirements in its permit? If the municipality is planning to meet a different schedule than that required in the permit, what is its timeline?

Table 12-4. CSO Interview Questions

Minimum CSO Controls	Examples of Interview Questions
Proper Operations and Regular Maintenance Program	<ul style="list-style-type: none"> • How often are CSO discharge locations inspected? Who conducts the inspections? What records do they keep? How is corrective action assured when a problem is discovered? How are the operability and reliability of regulators verified? • Do the pump stations have backup power? Is any other type of redundancy built into the collection system to minimize the occurrence of overflows? • What is the municipality’s budget for collection system operation? For collection system maintenance? How much was spent last year on collection system operation and maintenance? What has been the trend in operation and maintenance budget over time? • How many people are dedicated to maintaining the collection system? What has been the staffing trend over time? • What improvements are planned? Are these projects funded? What is the process for funding capital improvements? • How are personnel trained? • How often is the Operations & Maintenance plan reviewed? When was the last revision? • If green infrastructure is used to reduce flow how are controls being maintained to ensure continued effectiveness? • Have O&M plans been updated to include GI maintenance?
Maximum Use of Collection System for Storage	<ul style="list-style-type: none"> • What steps are taken to maximize use of the collection system for storage? (e.g., install dams, weirs, and regulators)

Table 12-4. CSO Interview Questions

Minimum CSO Controls	Examples of Interview Questions
Review and Modification of the Pretreatment Program	<ul style="list-style-type: none"> • When were the pretreatment requirements last reviewed to ensure minimization of CSO impacts from upstream Industrial Users? What changes have been made to the program to accomplish this goal? What percentage of total flow comes from nondomestic sources?
Maximization of Flows to the POTW for Treatment	<ul style="list-style-type: none"> • What steps are taken to maximize flow to the POTW? • What are the bottlenecks in the sewer system? What facilities in the system are critical to the performance of the CSS? • What are the capabilities of major interceptors and pumping stations delivering flows to the treatment POTW? • How do wet weather flows to the POTW compare with dry weather flows? • How does the current total flow compare to the design capacity? • What, if any, unused treatment facilities are used to store wet weather flows?
Prohibition of Dry Weather Overflows (DWOs)	<ul style="list-style-type: none"> • What has the municipality done to eliminate dry weather overflows? • How does the municipality identify dry weather overflows? If inspections are used, how often are the inspections performed? What type of monitoring is performed to identify dry weather overflows? • Describe the most recent cleaning, sewer repair, or regulator repair performed to alleviate a dry weather overflow. • How does the municipality determine which dry weather overflows could endanger health or the environment?
Control of Solids and Floatable Materials in CSOS	<ul style="list-style-type: none"> • How does the municipality keep solids and floatables out of the CSO discharge? • If solids and floatables do reach the receiving waters, how does the municipality remove them?
Pollution Prevention	<ul style="list-style-type: none"> • What pollution prevention measures (e.g., street cleaning, public education, waste collection or recycling) does the municipality take to keep contaminants from entering the sewer system?
Public Notification	<ul style="list-style-type: none"> • How has the public been notified of the location of CSO discharge points? How does the municipality notify the public of overflow incidents? When was the last notification? • What is the internal mechanism for reporting sewage overflows? How does this information reach the permitting authority?
Monitoring of CSOs	<ul style="list-style-type: none"> • How does the municipality monitor CSOs? How does the municipality use this monitoring to characterize the impacts of CSOs? How does the municipality use this monitoring to evaluate the effectiveness of CSO controls? Does the municipality monitor CSO flow rates? • What information from other groups (e.g., Coast Guard or local volunteer groups) does the municipality collect on water quality or use of waters affected by CSOs (e.g., beach closings, fish kills)?

Table 12-4. CSO Interview Questions

Minimum CSO Controls	Examples of Interview Questions
	<ul style="list-style-type: none"> • Which CSO receiving waters are the most sensitive? Why? (e.g., proximity to drinking water sources)

FACILITY SITE INSPECTION

An inspection of the CSO outfalls should be included in a NPDES compliance inspection to get a complete picture of how the overall POTW (wastewater treatment plant and collection system) is performing. This is especially true if the inspection's focus or one of its objectives is to investigate compliance with CSO requirements. In such cases, an inspection of CSO structures, CSO treatment systems, or key areas of the collection system is necessary. If the intent of the inspection is to observe CSO discharges or treatment, it may be necessary to schedule this inspection during or immediately after a wet weather event. These outfalls would be located throughout the collection system and, therefore, may be several miles from the treatment facility.

It is not necessary to inspect all CSO outfalls. The inspector can select a few either randomly or can use several criteria to select which outfalls to inspect, including:

- Location (closest to the plant, or proximity to other outfalls).
- Size as measured by discharge volume (e.g., the largest discharge volumes).
- Frequency of discharge (during wet weather).
- Treatment of solids and floatables (if the inspector wishes to evaluate the operation and maintenance of such controls).
- Incidence of dry weather overflows (DWOs).
- Discharges to sensitive areas.
- Impact on water quality (those known to impact water quality).
- Lack of previous inspections by the permittee.

If the inspector observes any dry weather CSO discharges, the inspector should make a photographic record (see Chapter 2); note the appearance and approximate flow rate of the discharge; if possible, sample the discharge (assuming that adequate laboratories are available for the analysis); note the present and immediately preceding weather conditions; and conduct in-depth interviews and obtain statements from facility personnel.

C. REFERENCES

The following is a list of resources providing additional information on CSOs.

Federal Register. (1989). *National CSO Control Strategy: Notice*. Volume 54, No. 3737.0

Federal Register. (1994). *Combined Sewer Overflow Control Policy: Notice*. Volume 59, No. 75.

- U.S. Environmental Protection Agency. (1993). *Manual: Combined Sewer Overflow Control*. Washington, D.C. EPA 625/R-93-007
- U.S. Environmental Protection Agency. (1995a). *Combined Sewer Overflows Guidance for Long-Term Control Plan*. EPA 832-B-95-002.
- U.S. Environmental Protection Agency. (1995b). *Combined Sewer Overflows Guidance for Nine Minimum Control Measures*. EPA 832-B-95-003.
- U.S. Environmental Protection Agency. (1995c). *Combined Sewer Overflows Guidance for Permit Writers*. EPA 832-B-95-008
- U.S. Environmental Protection Agency. (1995d). *Combined Sewer Overflows Guidance for Screening and Ranking*. EPA 832-B-95-004
- U.S. Environmental Protection Agency. (1995e). *Combined Sewer Overflows Guidance for Funding Options*. EPA 832-B-95-007
- U.S. Environmental Protection Agency. (1996a). *The Enforcement Management System National Pollutant Discharge Elimination System (Clean Water Act) Chapter X: Setting Priorities for Addressing Discharges from Separate Sanitary Sewers*.
- U.S. Environmental Protection Agency. (1996b). *Sanitary Sewer Overflows: What are they and how can we reduce them?* EPA 832-K-96-001.
- U.S. Environmental Protection Agency. (1997). *Combined Sewer Overflows Guidance on Financial Capability and Schedule Development*. EPA 832-B-97-004
- U.S. Environmental Protection Agency. (1999). *Combined Sewer Overflows Guidance for Monitoring and Modeling*. EPA 832-B-99-002
- U.S. Environmental Protection Agency. (2000a). *Compliance and Enforcement Strategy for CSOs and SSOs*.
- U.S. Environmental Protection Agency. (2000b). *Benefits of Protecting Your Community from Sanitary Sewer Overflows*. EPA 832-F-00-005.
- U.S. Environmental Protection Agency. (2001a). *Evaluating POTW Capacity, Management, Operation, and Maintenance Programs*.
- U.S. Environmental Protection Agency. (2001b). *Guidance: Coordinating CSO Long-term Planning with Water Quality Standards Reviews*. EPA-833-R-01-002.
- U.S. Environmental Protection Agency. (2012). *Integrated Municipal Stormwater and Wastewater Planning Approach Framework*.

U.S. Environmental Protection Agency. (2014a). *Financial Capability Assessment Framework*.

U.S. Environmental Protection Agency. (2014b). *Greening CSO Plans: Planning and Modeling Green Infrastructure for Combined Sewer Overflow (CSO) Control*. EPA 832-R-14-001.

D. CSO EVALUATION CHECKLIST

A. IDENTIFICATION OF CSOs			
Yes	No	N/A	1. Are all CSO points identified?
Yes	No	N/A	2. Does facility have maps/schematics of Combined Sewer System (CSS) depicting location of all CSO discharge points?
Yes	No	N/A	3. Is each CSO discharge point located by longitude, latitude, and street address on appropriate maps?
B. DRY WEATHER OVERFLOWS			
Yes	No	N/A	1. Are the locations of all dry weather CSOs known by permittee?
Yes	No	N/A	2. Does permittee have records of quantitative loads and flows on all dry weather CSO events?
Yes	No	N/A	3. Has notification been given to EPA/state of all dry weather CSO discharges?
Yes	No	N/A	4. Are there any unreported dry weather CSOs?
C. RECORDS			
			1. Are the following records kept for CSO events?
Yes	No	N/A	• Location.
Yes	No	N/A	• Frequency of discharge.
Yes	No	N/A	• Flow magnitude.
Yes	No	N/A	• Discharge pattern.
Yes	No	N/A	• Total volume of discharge.
Yes	No	N/A	• Duration of the event.
Yes	No	N/A	• Pollutant characterization.
Yes	No	N/A	• Correlation with rainfall records.
Yes	No	N/A	• Specific causes of overflows.
Yes	No	N/A	• Flow collected/flow diverted?
Yes	No	N/A	2. Are records of CSO flows maintained?
Yes	No	N/A	3. Are records accurate?
D. OPERATION AND MAINTENANCE			
Yes	No	N/A	1. Is there a CSS O&M manual and does it address O&M of CSO structures?
Yes	No	N/A	2. Does the facility conduct inspections of the CSS and CSO structures?
Yes	No	N/A	3. Are these inspections documented? Does documentation include results of various types of inspections, dates and times, corrective action taken if problems were found?

Yes	No	N/A	4. Is a logbook of maintenance and repair on the CSS and CSO structures maintained? Does this note the type of problem (or indicate routine maintenance), repair made, or maintenance activity conducted, date?
E. COMPLIANCE SCHEDULES			
			1. Is permittee meeting CSO compliance schedule for:
Yes	No	N/A	<ul style="list-style-type: none"> Implementing nine minimum CSO controls?
Yes	No	N/A	<ul style="list-style-type: none"> Developing LTCP?
Yes	No	N/A	<ul style="list-style-type: none"> Implementing LTCP?
Yes	No	N/A	2. Has permittee requested an extension of time?