

# 2013 Sewer System Management Plan Audit Report



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## Summary

The California State Water Resources Control Board's (SWRCB) Wastewater Discharge Requirements (WDR) adopted on May 2, 2006, requires that owners of wastewater collection systems with more than one mile of pipeline adopt and implement a Sewer System Management Plan (SSMP) to reduce the number and severity of Sanitary Sewer Overflows (SSOs). It is further required that the SSMP be audited every two years. The information contained herein is a report of the second required biennial audit of the City of Clovis' SSMP since its adoption in 2009 by the Clovis City Council.

Since the adoption of the WDR by the SWRCB in 2006, and the required implementation from collection system operators in 2009, there have been only minor changes to the WDR. Changes in the on-line format of reporting of SSO's, how SSO's are categorized and emergency notification are expected to be implemented in the near future. It is anticipated that these changes will have only minor impacts to operational staff.

This biennial audit of the City of Clovis' SSMP consists of sufficiency ratings on all 11 elements of the City of Clovis' SSMP. All elements were found to be sufficiently compliant during this audit. Commentary on improvements or enhancements is included in the narrative sections of pertinent section elements.

During fiscal years 2011/2012 and 2012/2013 the City of Clovis sanitary sewer collection system has undergone minimal system changes. Development within the collection system service area has continued to be at a lower than historic pace. During the past two years no new major facilities or projects have been initiated or completed. The maintenance collection system has grown from 301 miles, as of August 2011, to 342 miles of pipeline in August of 2013.

## Introduction

This second biennial audit report is submitted in accordance with the City of Clovis' Sewer System Management Plan (SSMP), completed in July 2009 in compliance with the State Water Resources Control Board Order Number 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The City of Clovis' SSMP *Element 10 – Internal Program Audits* requires the Utilities Manager to prepare an internal audit of the City of Clovis' SSMP. The audit shall focus on evaluating the effectiveness of, and the City's compliance with, the requirements of the City of Clovis' SSMP, including the identification of any deficiencies in the City of Clovis' SSMP and identifying steps to correct such deficiencies. The report shall include a short description of each SSMP element, benchmark(s) for the element audit and findings for element compliance, a narrative summary, pertinent reference locations, and any recommendations for element compliance or improvement. Notification on the progress or results of the internal audit shall be posted on the City of Clovis website.

## Audit of Element 1 – Goals per State Order D.13.i

This Sewer System Management Plan (SSMP) element identifies the goals of the City of Clovis for the management, operation and maintenance of the sewer system and discusses the role of the SSMP in supporting these goals. These goals will provide direction to City staff to focus efforts on maintaining the system as well as making improvements.

Audit benchmark: Review the SSMP to determine compliance to State Order by having goals which provide a plan to manage, operate, and maintain the City of Clovis sewer system.

Findings: The City of Clovis established a list of goals in its SSMP that complies with the WDR requirements. Below are the SSMP element one goals.

### 2013 Audit status – Compliant

1. Cost effectively manage, operate and maintain all parts of the wastewater collection system. **Meets Goal** Clovis continues to provide sustainable sewer service within annual budget.
2. Provide adequate capacity to serve new growth areas in the City and peak flow. **Meets Goal** Clovis does not have any current development restrictions due to capacity limitations.
3. Minimize sanitary sewer overflows to no more than one annually per 25 miles of sewer main. **Meets Goal** Clovis is averaging less than .25 per 25 miles of sewer main.
4. Mitigate the impact to customers and the environment from sanitary sewer overflows. **Meets Goal** No SSOs resulted in customer damages, outages, or environmental damage requiring mitigation.
5. Maintain all lift stations such that there are no sanitary sewer overflows due to lift station failure. **Meets Goal** No SSOs were caused by lift station failures.
6. Maintain all lift station facilities and grounds to be clean and attractive. **Meets Goal** Grounds are maintained to a satisfactory level through the Parks department. Wastewater collection maintenance staff continue to maintain lift station facilities and Facility Maintenance staff provide maintenance to structures and auxiliary equipment.
7. Perform all operations in a safe manner to avoid personal injury and property damage. **Meets Goal** Some accidents or incidents have been caused by employee conduct but largely without injury or significant property damage.
8. Regularly assess the condition of sewer mains to provide timely rehabilitation and replacement. **Meets Goal** Video inspections and assessments are ongoing in providing data for the Clovis CIP program.

9. Maintain and invest in wastewater equipment to enhance system reliability. **Meets Goal** Clovis continues to invest in new/replacement equipment including a new high velocity cleaning vacuum unit during this audit period.
10. Provide quick response to customer and contractor inquiries. **Meets Goal** Clovis continues to provide on-call service and track customer interactions via the Customer Relationship Management system.

**Reference:** City of Clovis SSMP 2009.

**Recommendation:** None. The City of Clovis is compliant with maintaining/achieving the goals set forth in the 2009 SSMP. Goal maintenance is an ongoing process and is rated by its overall effectiveness in providing consistent service and minimization of SSOs.

## **Audit of Element 2 - Organization per State Order D.13.ii**

This section of the SSMP identifies City of Clovis staff that is responsible for implementing this SSMP, responding to SSO events and meeting the SSO reporting requirements. This section also includes the designation of the Authorized Representative to meet SWRCB requirements for completing and certifying spill reports. This section fulfills the Organization requirement of the SWRCB requirements.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating adequate representation of staff and legal authorities.

**Findings:** The City of Clovis has identified staff responsible to meet the requirements of the State Order.

### **2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, Organizational Chart, Chain of communication flow chart.

**Recommendation:** None. The SSMP 2009 adequately designates authorized representation of responsibility of staff. Maintenance staff responsible for responding to after-hours calls, emergencies, and SSOs is provided through an “on-call” list which is updated at six month intervals. Staff is contacted through the 24 hour answering service or the Public Utilities SCADA system. The chain of communication has not changed since the SSMP was implemented in 2009. The organizational structure of the Utilities section has changed very little since the implementation of the SSMP to include an Associate Civil Engineer position. The pertinent charts shall be updated in compliance with the requirements to update the SSMP per State Order at year five of the plan (2014).

## **Audit of Element 3 – Legal Authority per State Order D.13.iii**

This section of the SSMP provides documentation of the City of Clovis' legal authority to regulate uses and discharges, and to regulate construction standards for sanitary sewers within the service boundaries. This authority includes the right to enforce violations.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating adequate legal authority for the City to operate and regulate, and control discharges within the City sanitary sewer service area.

**Findings:** The City of Clovis has sufficient legal authority within City policies, the City of Clovis Municipal Code, and through the City of Fresno Municipal Code via a Joint Powers Agreement to prevent, require, ensure, limit and enforce specific control of discharges. The City of Clovis also has sufficient legal authority to regulate construction of sewer facilities to City of Clovis standards and specifications. The authority granted in the above documents meet the requirements of the State Order.

### **2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, City of Clovis Municipal Code, City of Fresno Municipal Code, Fresno-Clovis Joint Powers Agreement 2003, pretreatment FOG program, City of Clovis Standard Specifications and Drawings 2012.

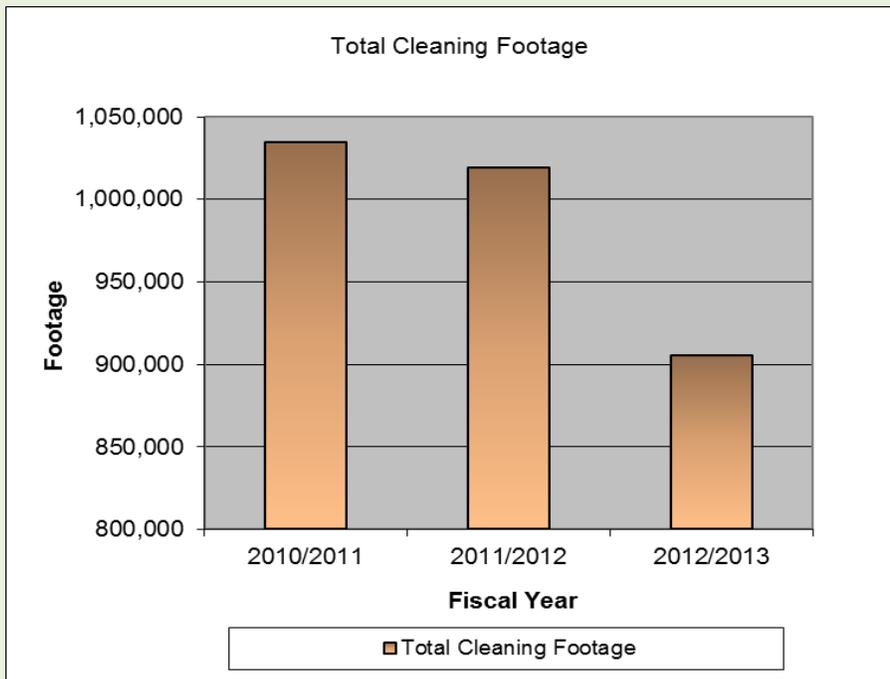
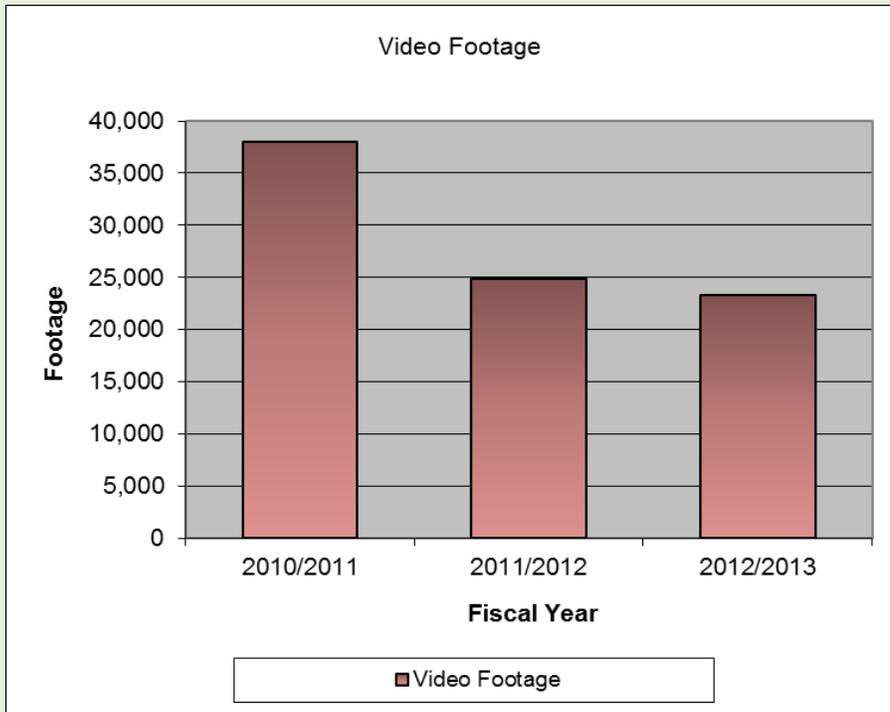
**Recommendation:** None. Construction standards and specifications changes and updates are an ongoing process. Review of standards and specifications should continue to be a joint process between Public Utilities and the Planning and Development Services Departments. Administration and inspection of commercial service users and sampling to ensure best management practices are being observed and shall continue to be a joint effort between the cities of Clovis and Fresno.

## **Audit of Element 4 – Operation and Maintenance Program per State Order D.13.iv**

This section of the SSMP provides documentation of the City of Clovis' Operation and Maintenance Program. An essential element of this segment is the accurate mapping of the collection system and maintenance of the mapping system and its appurtenances.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating adequate maintenance of the collection system using standard industry practices including compliance with system mapping.

**Findings:** The City of Clovis continues to update system mapping using Geographic Information System (GIS) technology. The Public Utilities Department has dedicated staff to map the system. Public Utilities continues to use standard industry practices to provide maintenance activities throughout the collection system, including pump and lift stations. The maintenance activities for sewer main cleaning and video inspections during the audit period are included below. Video inspection continues to be the primary method of development of the rehabilitation and replacement program within the City's Community Investment Program (CIP). The schedule of replacements and rehabilitation continues to be a joint effort between Public Utilities and Planning and Development Services staffs. Cleaning production has not met the goal of cleaning all sewer lines annually but production is still adequate. Cleaning production is expected to increase with the reduction in Surface Water Treatment Plant servicing requirements with the installation of sewer service in 2013, thus reducing waste hauling from the collections staff and equipment. Staff development is also a continuing process. Currently staff remains capable of operating and maintaining the collection system at a high level. Response to service demands and SSOs has been good. Regulatory compliance with training requirements is at a high level with training in key areas of safety. Required staff utilizes the City's Supervisory Control and Data Acquisition system to look for problems with pump and lift stations and spot problem trends with pumps.



**2013 Audit status – Compliant**

**Reference:** City of Clovis Public Utilities Maintenance Log, City of Clovis Public Utilities Sanitary Sewer reports, City of Clovis GIS map system, City of Clovis Public Utilities monthly reports, Public Utilities training schedule, Community Investment Program (CIP).

**Recommendation:** None. The Public Utilities Department's process of recording maintenance activities is ongoing. In the future it will be advantageous for Public Utilities to record its maintenance activities in the GIS mapping program. System mapping is also an ongoing process and shall continue. Public Utilities has dedicated engineering staff to continue updating and maintaining system mapping. Training is ongoing with emphasis on safety compliance.

## **Audit of Element 5 – Design and Performance Provisions per State Order D.13.v**

This section of the SSMP provides documentation of the City of Clovis' Design and Performance Provisions.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating adequate design and performance provisions.

**Findings:** The City of Clovis has identified procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for identification of rehabilitation and repair projects meeting the requirements of the State Order.

### **2013 Audit status – Complaint**

**Reference:** City of Clovis SSMP 2009, City of Clovis Standard Specifications and Drawings 2012, 2012-2013 City of Clovis Annual Budget; Community Investment Program.

**Recommendation:** None. Construction standards and specifications changes and updates are an ongoing process. Review of standards and specifications should continue to be a joint process between Public Utilities and the Planning and Development Services Departments.

## Audit of Element 6 – Emergency Overflow Response Plan per State Order D.13.vi

This section of the SSMP provides documentation of the City of Clovis' Emergency Overflow Response Plan.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating that the City has proper procedures in place to respond to sewer overflows including employee response and notifications to the public, affected entities, and other governmental/regulatory bodies as necessary.

**Findings:** The City of Clovis currently complies with overflow response and reporting requirements of the State Order by following internal procedures and the City of Clovis SSMP. The City of Clovis experienced two SSOs in fiscal year 2010/2011, one in fiscal year 2011/2012, and three in fiscal year 2012/2013. This rate of SSOs is below the goal stated in the SSMP. SSOs have been reported by wastewater staff as required by the State Water Resources Control Board utilizing the on-line California Integrated Water Quality reporting system. Field staff are trained in SSO response via internal training as well as technical training provided by the California Water Environment Association. Section vehicles are equipped with SSO Field Reports and SSO contact lists.

2012/13	Category 1	300	Clovis City CS	5SSO11214	2013-1-31.0.0.0.0	Burgan and Santa Ana
2012/13	Category 3	10	Clovis City CS	5SSO11214	2012-8-21.18.30.0.0	Carson and Muncie
2012/13	Category 1	500	Clovis City CS	5SSO11214	2012-10-19.0.0.0.0	Santa Ana and Woodworth
2011/12	Category 3	525	Clovis City CS	5SSO11214	2012-1-7.0.0.0.0	Fordham and Ashlan
2010/11	Category 1	1500	Clovis City CS	5SSO11214	2011-1-29.0.0.0.0	985 W. Rialto
2010/11	Category 3	500	Clovis City CS	5SSO11214	2010-12-7.0.0.0.0	Ashlan and Leonard, Pump Station E

### **2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, City of Clovis SSO report log, City of Clovis SSO contact list, City of Clovis SSO checklist, City of Clovis organizational chart.

**Recommendation:** None. The City of Clovis is compliant with the State Order.

## **Audit of Element 7 – Fats, Oil, Grease (FOG) Control Plan per State Order D.13.vii**

This section of the SSMP provides documentation of the City of Clovis' Fats, Oil, Grease (FOG) Plan.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating the existence of a FOG program including public education, inventory or Food Service Establishments (FSE), regulations to control the discharge of FOG, authority to inspect and intercede if necessary. adequate legal authority for the City to operate, regulate, control discharges within the City sanitary sewer service area.

**Findings:** As decades long partners in the Fresno-Clovis Regional Wastewater Treatment Facility the two agencies have developed a pre-treatment partnership. Per the Joint Elements of this program include public education and outreach, facility inspections, and the legal authority of enforcement. Included in the facility inspections is the right to view disposal records and physical inspection of on site grease traps and interceptors. Legal authority of FOG control agents including the authority to prohibit discharges into the collections system and perform inspections is included in the City of Fresno FOG program in appendix F of this SSMP. The City of Clovis has sufficient legal authority to within city policies, the City of Clovis Municipal Code, and through the City of Fresno Municipal Code via a joint powers agreement to prevent, require, ensure, limit and enforce specific control of discharges. The authority granted in above documents meet the requirements of the State Order. The City by reference to the City of Fresno Municipal Code has adopted a Fats, Oil and Grease Program titled FATS, OILS, & GREASE (FOG) CONTROL PROGRAM contained within The City of Fresno Municipal code article 3 sections 6-321.1. This program requires a FOG Wastewater Discharge Permit for all Food Service Establishments (FSEs). Standards for the construction of grease interceptors are included in the City Standard Drawings issued by the City Engineer. Internal devices are subject to the accepted Uniform Plumbing Code and subject to inspection by the City Building Division.

**2013 Audit status – Complaint**

**Reference:** City of Clovis SSMP 2009, City of Clovis Municipal Code, City of Fresno Municipal Code, Fresno-Clovis Joint Powers Agreement 2003, pretreatment FOG program, City of Clovis Standard Drawings 2012.

**Recommendation:** None. Powers Agreement between the two agencies the City of Fresno is designated as the lead agency to monitor pre-treatment wastewater operations including the dischargers of fats, oils, and grease. By agreement, Fresno will continue to provide Clovis with this service as Clovis' wastewater will continue to be treated at the joint regional facility. The City of Clovis has adopted the Fresno's ordinance including the FOG program by agreement.

## **Audit of Element 8 – System Evaluation and Capacity Assurance Plan per State Order D.13.viii**

This section of the SSMP provides documentation of the City of Clovis' System Evaluation and Capacity Assurance Plan.

**Audit benchmark:** Review the SSMP for compliance with the State Order, demonstrating adequate system capacity and systematic evaluation of the system's capacity as well as detect any hydraulic deficiencies

**Findings:** The City of Clovis has a current Master Plan which meets the requirements of the State Order. In 2008, the Clovis Wastewater Collection System Master Plan (CWCSMP) was completed. The CWCSMP is a culmination of a multi-phase project commenced in 1995 to update the City's Wastewater Master Plan. It is designed to provide a course of action for the City of Clovis with respect to wastewater service needs through the year 2030. Certain elements of the CWCSMP are critical to the City's SSMP as they focus on the areas of system evaluation and capacity assurance to measure current needs, as well as design and build to meet future system demands. Criteria for pipeline analysis and design were established, including hydraulic elements and pipeline depth limitations. A custom hydraulic computer model was developed to analyze the hydraulics of individual segments of the sewers, utilizing the established hydraulic criteria. A review of all SSOs occurring during the past ten years revealed none due to capacity or hydraulic conditions regardless of weather. If deficiencies are found in the system design or capacity, the City will prioritize replacement projects within the Community Investment Program (CIP) budget. There have been no significant changes to the collection system capacity since adoption of the SSMP in 2009. Newer development in the southeast Loma Vista area continued to be slow through fiscal year 2012/2013. Treatment capacities at the City of Clovis WRF remains below the daily capacity of phase one of the facility. Capacity changes in the Fowler trunk service area have been small with some continued development in the extreme northeast service area, mainly from the Harlan Ranch residential development.

**2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, 2008 Clovis Wastewater Collection System Master Plan (CWCSMP), City of Clovis Standard Specifications and Drawings 2012, 2012-2013 City of Clovis Annual Budget; Community Investment Program.

**Recommendation:** None. The Clovis Wastewater Collection System Master Plan (CWCSMP) remains a living document in that there is a need for continued effort to modify and update the plan in response to ongoing community planning and development activity. The master planning process consisted generally of developing design criteria, defining wastewater service areas, developing wastewater flow projections, analyzing and designing collection system pipelines, and summarizing results.

## **Audit of Element 9 – Monitoring, Measurement and Program Modifications per State Order D.13.ix**

This section of the SSMP provides documentation of the City of Clovis' Monitoring, Measurement and Program Modifications.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating the City collects and maintains data relevant to be used in review of the City's SSMP, evaluating the effectiveness of the SSMP, monitoring the effectiveness of maintenance activities, collecting trend data on SSOs, and implementing changes as appropriate.

**Findings:** The City of Clovis does collect data sufficient to meet the requirements of the State Order. Data is collected and maintained in various formats with the Bi-Weekly and Monthly Public Utilities reports being the primary source of public documentation. SSOs are reported and cataloged in the California Integrated Water Quality System (CIWQS) on-line reporting system, as well as an internal department database. Complaints are collected in the City's Customer Relationship Management (CRM) system where they can be tracked. Report records for sewer main video inspections are maintained in a database with access to engineering and maintenance staffs. Effectiveness is also evaluated in the City's annual budget. The budget includes performance measures for each department. These are broad goals which measure productivity, efficiency and effectiveness. The budget measurements include such goals as sewer footage cleaning and limits on complaints and stoppages.

### **2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, City of Clovis Bi-Weekly reports, City of Clovis Monthly reports, Public Utilities databases, Customer Relationship Management (CRM), CUES Granite XP database, 2012-2013 City of Clovis Annual Budget, and the California Integrated Water Quality System (CIWQS).

**Recommendation:** None. Data documentation can be improved in the future with the purchase and implementation of a Geographic Information System (GIS) maintenance mapping program. Such a program could improve data collection of maintenance activities and integrate current systems used by the wastewater collection system staff such as CUES Granite XP.

## **Audit of Element 10 – Internal Program Audits per State Order D.13.x**

This section of the SSMP provides documentation of the City of Clovis' Internal Program Audits.

**Audit benchmark:** Review the SSMP for compliance with the State Order demonstrating biennial audits as required. The audits shall focus on the effectiveness of the SSMP, compliance with the State Order, and identify deficiencies in the SSMP.

**Findings:** The City of Clovis Public Utilities department has conducted audits as required by the State Order. A copy of the final biennial audit has been included with the SSMP as an attachment.

### **2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, 2011 SSMP Audit.

**Recommendation:** None. A copy of the final biennial audit will be included with the SSMP as an attachment.

## **Audit of Element 11 – Communications Program per State Order D.13.xi**

This section of the SSMP provides documentation of the City of Clovis' Communications Program.

Audit benchmark: Review the SSMP for compliance with the State Order.

Findings: The City of Clovis has is in compliance with this element of the State Order.

### **2013 Audit status – Compliant**

**Reference:** City of Clovis SSMP 2009, City of Clovis website: [www.ci.clovis.ca.us/](http://www.ci.clovis.ca.us/)

**Recommendation:** None.

## **Conclusion**

The City of Clovis wastewater collection system is in good operational condition. Field operations, management, and support staff routinely demonstrate a high level of dedication to maintaining all components of the system. The Public Utilities Department continues to invest in equipment and training to maintain system reliability. Sanitary Sewer Overflows have been low in number and have not negatively impacted the environment. System demands appear to be relatively static with slow steady growth projected in the near future. There are no immediate plans for changes to major facilities. No major changes are foreseen during the term between now and the next SSMP renewal or internal audit.