

SEMI-ANNUAL REPORT FY 2015



Hampton Roads Sanitation District
1434 Air Rail Avenue
Virginia Beach, VA 23455

April 29, 2015

This page left blank intentionally.

TABLE OF CONTENTS

1. INTRODUCTION AND PURPOSE	1-1
2. MAJOR COMPLIANCE ACHIEVEMENTS.....	2-1
2.1 Flow, Pressure, and Rainfall Monitoring Program	2-1
2.1.1 Ongoing System Monitoring.....	2-1
2.2 Condition Assessment Plan.....	2-1
2.2.1 Implementation of the Condition Assessment Plan.....	2-1
2.2.2 Final Condition Assessment Report.....	2-2
2.3 Interim System Improvements	2-2
2.4 Management, Operations, and Maintenance (MOM) Program.....	2-2
2.4.1 Implementation of MOM Program.....	2-2
2.4.2 Quantitative Performance Measures	2-2
2.5 Regional Wet Weather Management Plan.....	2-2
2.6 SSO Emergency Response Plan.....	2-3
2.7 Coordination with Localities	2-3
2.8 Public Participation	2-3
2.9 Post-RWWMP Implementation Monitoring and Performance Assessment	2-3
2.10 Reporting	2-3
2.10.1 Annual Report.....	2-3
2.10.2 Quarterly Briefing.....	2-3
2.11 Summary of Submittals.....	2-4
3. COMPLIANCE DEADLINES AND MILESTONES	3-1
4. CONDITION ASSESSMENT ACTIVITIES	4-1
4.1 Gravity Main.....	4-1
4.2 Force Main.....	4-1
4.3 Pumping Facilities.....	4-1
4.4 Prompt Repairs.....	4-1
5. SYSTEM PERFORMANCE	5-1
5.1 STP Performance	5-1
5.2 HRSD Conveyance System Performance	5-1
5.3 Capacity Related SSOs.....	5-1
6. PLANNED ACTIVITIES.....	6-1
6.1 Flow, Pressure, and Rainfall Monitoring Program	6-1
6.1.1 Implementation of the FPR Monitoring Plan	6-1
6.1.2 LOP Status	6-1
6.2 Condition Assessment Plan.....	6-1
6.2.1 Implementation of the Condition Assessment Plan.....	6-1
6.2.2 Rehabilitation Action Plan.....	6-1
6.3 Interim System Improvements	6-1

6.4	Management, Operations, and Maintenance Program	6-1
6.4.1	Implementation of MOM Program	6-1
6.4.2	Quantitative Performance Measures	6-2
6.5	Regional Wet Weather Management Plan.....	6-2
6.6	SSO Emergency Response Plan.....	6-2
6.7	Coordination with Localities	6-2
6.8	Public Participation	6-2
7.	FORESEEABLE ISSUES RELATED TO UPCOMING COMPLIANCE DEADLINES AND MILESTONES.....	7-1
7.1	Hybrid Regionalization Approach to RWWMP	7-1
8.	SIGNIFICANT ISSUES THAT REQUIRE A CHANGE IN THE CONSENT DECREE REQUIREMENTS.....	8-1

SEMI-ANNUAL REPORT FY 2015

1. INTRODUCTION AND PURPOSE

On September 26, 2007, the Hampton Roads Sanitation District (HRSD) entered into a Special Order by Consent (SOC) with the Virginia Department of Environmental Quality (DEQ) and thirteen (13) area Localities for the purpose of resolving certain alleged violations of environmental laws and regulations related to Sanitary Sewer Overflows (SSOs). On February 23, 2010, HRSD entered into an Amended Consent Decree (“Consent Decree”) with the United States of America and the Commonwealth of Virginia for the purpose of fulfilling the objectives of the Clean Water Act and the Virginia State Water Control Law. This Consent Decree has been modified three times by agreement of all parties in 2011, 2013, and 2014. In December 2014, the SOC was modified and HRSD is no longer part of that order.

The Consent Decree requires HRSD to perform, among other things, the following tasks:

- Implement a flow, pressure, and rainfall monitoring program;
- Coordinate with the Localities to develop a Regional Hydraulic Model;
- Prepare a plan for and conduct a condition assessment program;
- Construct specified interim system improvements;
- Develop and implement an SSO Response Plan;
- Coordinate with the Localities to develop a Regional Wet Weather Management Plan;
- Update and implement a Management, Operations and Maintenance (MOM) Program; and
- Prepare and submit a variety of periodic and event-driven reports.

This semi-annual report is submitted pursuant to Section XVII of the Consent Decree. HRSD has prepared this semi-annual report in accordance with the above requirements to apprise the EPA (representing the United States of America) and the DEQ (representing the Commonwealth of Virginia) of steps taken toward meeting the obligations of the Consent Decree. Specifically, this semi-annual report summarizes the work and activities undertaken by HRSD from July 1, 2014, through December 31, 2014, and the planned work for the remainder of FY 2015.

This page left blank intentionally.

2. MAJOR COMPLIANCE ACHIEVEMENTS

2.1 Flow, Pressure, and Rainfall Monitoring Program

2.1.1 Ongoing System Monitoring

Following completion of the 12-month flow, pressure, and rainfall monitoring period on March 11, 2011, HRSD continues to maintain a wide-scale monitoring network. Regular manual data review has been conducted and unreliable data has been flagged in the system. In the first six months of FY 2015, HRSD has re-installed the force main flow meter at Bloxom's Corner Pump Station (PS) [MMPS-118], installed flow and pressure meters at the Hampton Institute PS (MMPS-137), removed the flow and pressure meters at Providence PRS (MMPS-163) which is under construction, and removed the pressure meter at State Street PS (MMPS-172) during construction. Numerous gravity flow meters were temporarily removed and then replaced due to a change in service provider.

A portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites (Telog server data) was developed and implemented in February 2009 and continues to be used and enhanced.

2.2 Condition Assessment Plan

2.2.1 Implementation of the Condition Assessment Plan

2.2.1.1 Condition Assessment Field Activities

HRSD has completed the remaining Condition Assessment Field Activities prior to the completion milestone of October 31, 2013. See Section 4 of this report for details on the Condition Assessment Field Activities.

2.2.1.2 Prompt Repairs

HRSD continues to implement a program to identify and address collection system infrastructure deficiencies found during the course of condition assessment field activities that require prompt attention (as defined in the approved Condition Assessment Plan). Defects are evaluated to determine if they:

- Pose an immediate threat to the environment;
- Pose an imminent threat to the health and safety of the public;
- Create operational problems that may result in SSOs; or
- Contribute to substantial inflow to the system.

If such a defect is identified through the inspection process, it is assessed to determine the appropriate repair necessary. See Section 4 of this report for details on the Condition Assessment Program Prompt Repair status.

2.2.2 Final Condition Assessment Report

HRSD continued during this reporting period to address final comments from the EPA/DEQ on the Final Condition Assessment Report and the Rehabilitation Action Plan. These documents were submitted on February 12, 2014, as an update to the documents submitted in February 2013, per the Consent Decree and schedule in the Preliminary Condition Assessment Report. An amended plan that addresses the comments was submitted on December 2, 2014. The EPA/DEQ had provided a conditional approval of these documents on June 10, 2014.

2.3 Interim System Improvements

Appendix 5 to the Consent Decree lists thirty-three projects that are required to be completed within 8 years of the Date of Entry of the Consent Decree. The modification to the Consent Decree in FY 2013 has added eighteen (18) new projects for a total of fifty-one (51). Modification No. 3 which was entered by the court in August 2014 added two (2) projects and removed eight (8), leaving a total of forty-five (45) Interim System Improvement projects. HRSD has each of these projects scheduled as part of its Capital Improvement Program with completion prior to February 23, 2018, with the exception of the recent additions which have a December 2018 deadline. A number of these projects are underway with several in construction during this fiscal year. As required by Paragraph 32 of the Consent Decree, HRSD will provide a certification by a Professional Engineer that each of these projects was completed satisfactorily and in conformance with the scope as originally provided to the EPA and DEQ. HRSD is on schedule to meet the milestones; however, no projects were completed during this period. A complete update for the fiscal year will be provided in the Annual Report.

2.4 Management, Operations, and Maintenance (MOM) Program

2.4.1 Implementation of MOM Program

HRSD continues to implement its MOM Program. This includes details pertaining to management, operations, and maintenance of nearly all aspects of HRSD's system, including quantitative performance measures, implementation of continuous improvement initiatives, and special programs coordinated in the region such as the HR FOG. HRSD performed an annual performance assessment of its MOM Plan in accordance with Section 5 of the MOM Program following completion of FY 2014.

2.4.2 Quantitative Performance Measures

The revised MOM Program, approved on September 27, 2011, included many performance measures to help HRSD understand the performance of program elements. Paragraph 34 of the Consent Decree established a list of six specific measures that are subject to stipulated penalties, including: gravity sewer main inspection, air release valve preventative maintenance, gravity sewer cleaning, pumping station annual preventative maintenance, back-up generator annual preventative maintenance, and non-invasive force main inspection near drinking water supply reservoirs. Work has continued to implement and track these performance measures and the results will be presented in the FY 2015 Annual Report. HRSD is on track to meet all the performance measures identified in Paragraph 34 of the Consent Decree.

2.5 Regional Wet Weather Management Plan

Modification number 3 to the Consent Decree was entered by the Court in August 2014 and establishes a new deadline of October 2017 for RWWMP submittal. See Section 7 of this report for additional details.

HRSD has continued in FY2015 to prepare for the RWWMP through updates to the Regional Hydraulic Model and locality hydraulic models.

2.6 SSO Emergency Response Plan

On January 7, 2015, HRSD submitted an annual update of the approved Sanitary Sewer Overflow (SSO) Response Plan to the EPA and DEQ. This plan continues to be implemented by HRSD. A copy of the most recently approved plan is posted to the www.HRSD.com website.

2.7 Coordination with Localities

There was a wide variety of coordination activities in the first half of FY 2015 amongst HRSD and the localities. These activities included:

- Model Users Group (MUG) meetings were held to coordinate data exchanges between HRSD and the localities;
- Briefings of the Directors' of Utilities Committee to share progress on compliance with the SOC and Consent Decree;
- A regional SharePoint website continues to be updated to collaborate with and provide documents to the regional Capacity Team; and
- Copies of the Annual Report were provided from HRSD to the Localities.

2.8 Public Participation

HRSD will conduct a second annual information meeting and publish a newsletter by February 23, 2015, the anniversary of the Date of Entry. Information and approved plans continue to be posted to HRSD's website, which is accessible to the public.

2.9 Post-RWWMP Implementation Monitoring and Performance Assessment

No action has been performed for this item as it is a later requirement of the Consent Decree.

2.10 Reporting

2.10.1 Annual Report

HRSD completed an FY 2014 Annual Report as required by both the SOC and Consent Decree, and submitted it to the EPA and DEQ on October 30, 2014.

2.10.2 Quarterly Briefing

A quarterly briefing was held per Paragraph 90 of the Consent Decree, on July 22, 2014, with attendance by HRSD, the EPA, and the DEQ.

2.11 Summary of Submittals

Table 1 summarizes the status of the documentation that HRSD has submitted to the EPA and DEQ under the Consent Decree in the first half of FY 2015.

Table 1. Summary of Consent Decree Submittals	
Consent Decree Submittal	Submittal Date
Quarterly Briefing	July 22, 2014
Annual Report	October 30, 2014
Revised Final Condition Assessment Report and Rehab Action Plan	December 2, 2014

3. COMPLIANCE DEADLINES AND MILESTONES

In the first half of FY 2015, HRSD expended considerable resources in both time and money to achieve the compliance goals of the Consent Decree. All deliverables were submitted on or before their due dates and all milestones were met, including those with short timeframes for response.

This page left blank intentionally.

SEMI-ANNUAL REPORT FY 2015

4. CONDITION ASSESSMENT ACTIVITIES

HRSD has continued with its Condition Assessment Program in FY 2015 with significant progress made in many aspects of the program. The following subsections describe the progress made in each aspect.

4.1 Gravity Main

All gravity sewer main inspections were completed by the November 2011 milestone.

4.2 Force Main

All force main inspections were completed by the October 2013 milestone.

4.3 Pumping Facilities

All pump station inspection work was completed by the November 2011 schedule deadline.

4.4 Prompt Repairs

Through the Condition Assessment Program, HRSD has identified 61 defects in the HRSD sanitary sewer system (primarily gravity sewer pipe and manholes) which have been deemed to be Prompt Repairs. These defects have been grouped into larger repair work orders and are currently in various stages of planning, design, or construction. The following Table 2 provides details on all known Prompt Repairs as of December 31, 2014.

Table 2. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	Status
41st Street	41st Street east of intersection with Jefferson Ave; between MHs NG-112-12175 and NG-112-11783	Hampton	NG-112	Pipe lining failure	Complete
Beach Road	West side of Beach Road opposite intersection with Wade Road between MH NG-088-0 and NG-088-155.	Hampton	NG-088	Pipe connection at manhole needs repair	Complete
Beach Road	West side of Beach Rd. between intersection with Bonneville Dr. and Catalina Drive between MH NG-088-1654 and NG-088-1863	Hampton	NG-088	Lateral connection to mainline needs repair	Complete
	Approximately in front of 112 Beach Rd between MH NG-088-0636 and NG-088-0970	Hampton	NG-088	Mainline pipe defects	
	Beach Rd. approximately 170 ft. south of Wade Rd. intersection	Hampton	NG-088	Manhole defects	

Table 2. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Status
	West side of Beach Road opposite intersection with Hall Road. Between MHs NG-088-1260 and NG-088-1316	Hampton	NG-088	Mainline punctured by another utility directional drilling	
Various Manholes	North King St.	Hampton	NG-078	Manhole defects	Complete
	E. Pembroke Ave. at Washington St.	Hampton	NG-084	Manhole defects	
	Bainbridge Blvd. between Beech St. and Wilton St.	Norfolk	SG-153	Manhole defects	
Jefferson Ave	Jefferson Ave. between 40th Street and 41st Street	Newport News	NG-114	Mainline pipe defects	Complete
	Jefferson Ave between 39th and 40th Street	Newport News	NG-114	Mainline pipe defects	
Newtown Road	Newtown Rd. at Virginia Beach Blvd (ne corner of intersection)	Virginia Beach	SG-112	Manhole defects and mainline pipe defects	Complete
	Newtown Rd. approx. 415 ft. north of Princess Anne Rd.	Virginia Beach	SG-113	Manhole defects	
	Newtown Rd. at Elam Ave.	Virginia Beach	SG-113	Manhole defects	
Mercury Blvd	West Mercury Blvd	Hampton	NG-099	Mainline pipe defects	Deferred to CIP BH-150
	West Mercury Blvd	Hampton	NG-057	Mainline pipe defects	
	West Mercury Blvd; near Beechwood Rd.	Hampton	NG-057	Mainline pipe defects	
Various Repairs	North Hope Street	Hampton	NG-160	Pipe lining failure	Complete
	Old Atlantic Avenue; near intersection with Liberty Street	Chesapeake	SG-148	Pipe lining failure	
	South of Steamboat Creek Pump Station	Norfolk	SG-102	Manhole defects	
Witchduck	South Witchduck Road	Virginia Beach	SF-141	Corroded FM bolts	Complete
Pin Oak Rd	Pin Oak Road; Residential neighborhood	Newport News	NG-175	Mainline Pipe Defects	Complete
Bainbridge Blvd	Bainbridge Blvd near I-464	Norfolk	SG-145	Mainline Pipe Defects	Complete
	Bainbridge Blvd near I-464 just upstream of PS	Norfolk	SG-145	Mainline Pipe Defects	
Shell Rd - Hampton	Shell Road	Hampton	NG-141	Mainline Pipe Defects	Complete
	Harris Creek Road	Hampton	NG-086	Mainline Pipe Defects	
Pearl Street	Pearl Street near Ligon Street near I-464/I-262 Interchange	Norfolk	SG-202	Mainline Pipe Defects	Complete
	Pearl Street near Ligon Street near I-464/I-262 Interchange	Norfolk	SG-202	Mainline Pipe Defects	
Deep Creek	Deep Creek force main on suction side of Deep Creek PRS	Chesapeake	SF-143	FM defects	Complete

Table 2. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	Status
Wythe Lagoon	Wythe Lagoon Siphon	Hampton	NG-151	Siphon defects	Complete
Pump Station Hatches	Ingleside Road Pump Station	Norfolk	PS#148	Wet Well Hatch	Complete
Pump Station Wet Wells	Rodman Ave Pump Station Wet Well	Portsmouth	PS#145	Wet Well Defects	Deferred to CIP VIP-173
Luxemburg Ave	Influent line to Luxemburg Avenue pump station.	Norfolk	SPS-113	Defect at manhole connection	Complete
Gowrie and Farragut	Manhole near creek at end of Gowrie Avenue	Norfolk	SG-068	Manhole defects	Complete
	Manhole near creek at end of Farragut Avenue	Norfolk	SG-068	Manhole defects	
Shipyard Sewer	Outside of 33 rd street Pump Station	Newport News	33 rd Street	Mainline pipe defects	Work order in development
	31 st Street	Newport News	31 st Street	Mainline pipe defects	
	38 th Street	Newport News	38 th Street	Mainline pipe defects	
Chesterfield Blvd	Gravity influent to Chesterfield PS	Norfolk	SG-207	Mainline pipe defects	Complete
	Gravity influent to Chesterfield PS	Norfolk	SG-207	Mainline pipe defects	
State Street FM	Force main at State St Pump Station	Norfolk	SF-097	Thin wall	Complete
Berkley Avenue	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects	Complete
	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects	
Newmarket Creek	Orcutt Avenue and Paul street at influent to Newmarket Creek PS	Newport News	NG-127	Manhole Defects	Deferred to CIP BH-150
	Orcutt Avenue and Paul street at influent to Newmarket Creek PS	Newport News	NG-127	Pipeline defects	
Laskin Road	Laskin Road Force Main	Virginia Beach	SF-135	Hit by third party	Complete
Elizabeth River	East side of Elizabeth River Crossing	Chesapeake	SF-143	Thin wall	Complete
14 th Street	Manhole at Jefferson Ave and 14 th street	Newport News	NG-130X	Manhole Defects	Deferred to CIP BH-112
Army Base	Baker Street and Hampton Blvd	Norfolk	SF-003	Pipeline defect	Complete
Mercury and Orcutt Intersection	W Mercury Blvd	Hampton	NG-127	Manhole Defect	Complete
Claremont Avenue Discharge	Harbor Lane and 14 th Street	Newport News	NG-130	Pipeline Defect	Deferred to CIP BH-112
Boat Harbor Outlet	Jefferson Avenue and 25 th Street	Newport News	NG-169	Pipeline Defect	Under Construction
Hickman Branch	Factory Street	Portsmouth	SG-193	Pipeline Defect	Developing Work Order
Terminal Avenue	Terminal Avenue	Newport News	NG-125	Pipeline Defect	Deferred to CIP BH-112

Table 2. Summary of Prompt Repairs					
Name	Location	Jurisdiction	Line Number	Summary of defect	Status
Swannanoa and Summerset	Intersection of Swannanoa Drive and Summerset Drive	Portsmouth	SF-206	Pipeline Defect	Developing Work Order
Orcutt Avenue Liner	Orcutt Avenue and 79th Street	Hampton / Newport News	NG-127	Pipeline Defect	Developing Work Order
Bay Shore Lane	Bay Shore Lane	Hampton	NG-095	Manhole Defect	Developing Work Order
Warwick Blvd	Warwick Blvd	Newport News	NG-130	Pipeline Defect	Complete
Warwick and Woodhaven	Warwick Blvd to Thorncliff Drive	Newport News	NF-015	Pipeline Defect	Developing Work Order
Woodland Avenue	Woodland Avenue and Ballentine Blvd	Norfolk	SG-089	Manhole Defect	Developing Work Order
Indian River Road	Indian River Road near Campostella	Norfolk	SF-106	Pipeline Defect	Complete

5. SYSTEM PERFORMANCE

5.1 STP Performance

The HRSD system was influenced by wet weather events in the first half of FY 2015 that led to flow increases at the treatment facilities. In addition, construction related to the nutrient control program was ongoing at several of the treatment plants with minor operational events that contributed to unusual discharges from the facilities. Table 3 provides details on the unusual discharges from July 1 to December 31, 2014. Five of the eight occurrences were fully treated effluent.

5.2 HRSD Conveyance System Performance

For the reporting period of July 1 through December 31, 2014, HRSD experienced 10 capacity-related sanitary sewer overflows (SSOs) from its system. A very significant wet weather event in excess of a 10-year recurrence interval occurred during this period, namely the September 8-9 event. This rainfall event which accounted for 8 of the 10 SSOs was spread across the HRSD system and included total rainfall of up to 15 inches. All of these events are detailed in the Sanitary Sewer Overflow Reporting System (SSORS). Details on these 10 events are available in Table 4. All capacity-related SSOs during this reporting period were beyond the control of HRSD and were caused by rainfall amounts exceeding any reasonable level of service.

5.3 Capacity Related SSOs

As part of the recent modification (No. 3) to the Consent Decree, Paragraph 88.a. requires the Semi-Annual Report to include “a discussion of the cause, significance, and response to any wet weather or capacity related SSO that occurred in the Region [sic] SS System.” During development of the locality hydraulic models and updates to the Regional Hydraulic Model over the past several months, HRSD has reviewed several years of wet weather/capacity-related SSOs including the period of July 1 through December 31. The events that led to these SSOs were evaluated for significance and those locations where capacity-related SSOs have occurred within the level of service (10 years or less) range considered in the Consent Decree are being incorporated into the models. Information related to this review process and the events included will be available for the Annual Report in November.

This page left blank intentionally.

Table 3. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2014)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
8/4/2014	VIP	Plant operator cracked open drain valve on #6 primary clarifier to drain tank for maintenance inspection. Process drain line overflowed at a manhole on the south side of plant.	7	Shut down valve on #6 Primary Clarifier to stop overflow. Sandbagged storm drain to prevent additional flow from getting into it. Pump was set up to recover as much of liquid as possible, used sand to absorb rest of the liquid. Deposited sand in a dumpster for disposal at a sanitary landfill.	3000	1000	wastewater	Elizabeth River	
8/28/2014	York River	The Plant Operator discovered a leak at the centrate transfer pump station while making one of his routine rounds of the plant. Centrate filled the centrate piping vault and then overflowed onto grassy area beside the building. The leak was caused by a 4-inch pump discharge line that blew out of a full circle clamp due to high line pressure from a clogged line.	15	Operator shut down and isolated the pump to stop the leak. The discharge line was cleaned, the full circle clamp was reinstalled and the discharge line was supported so it will not blow out of the clamp again. It is estimated that a total of 2266 gallons was spilled based on the dimensions of the centrate piping vault and the area of ground affected by the spill. Plant staff recovered 1788 gallons of centrate that was contained in the centrate piping vault and returned it to the system. An estimated 478 gallons soaked into the ground and could not be recovered.	2266	478	wastewater	ground	
9/9/2014	VIP	The plant received very high influent flow due to heavy rainfall that flooded the streets in Portsmouth and Norfolk. Rainfall totals ranged from 4.73" recorded at Norfolk International Airport to 9.42" in the Cradock area of Portsmouth. The flow rate peaked above 80 MGD. The flow was above the designed diffuser flow and the excess flow discharged briefly via the permitted short outfall 002.	285	Plant staff checked the weir to the short outfall and observed a minimal amount of treated effluent splashing over the short outfall wall intermittently. The sporadic nature of the discharge made it impossible to estimate a flow amount. There is a float which activates an alarm to alert staff when water goes over the weir. A review of the alarm records shows that it was activated multiple times over the 285-minute period but the duration was for only a few seconds each time. All discharge was fully treated, chlorinated and dechlorinated final effluent.	unknown	unknown	NPW*	canal to Elizabeth River	
10/10/2014	Boat Harbor	The 8" combined vertical drain pipe of the odor scrubber system scaled up which caused flow to back up and leak from the cleanout flanges of the odor scrubber drain system. The scrubber dilution nonpotable water (NPW) flow was shut off to allow the drain system to empty. The three clean-out flanges were removed in preparation for a contractor to clean the lines. A couple of hours later a small amount of flow was observed coming out of the open flanges. Plant staff determined that the NPW seal water to each of the recirculation pumps was adding volume into the drain system. All four recirculation pumps and their NPW seal water lines were secured. Stopping the recirculation pumps caused the scrubber towers to empty quickly into the sump and flow into the scrubber drain system. The flow surge into the scaled up drain system caused about 1,100 gallons of spent scrubber water to overflow. Spent scrubber water is NPW containing a small amount of sodium hydroxide and sodium hypochlorite.	280	Majority of the spill entered the plant drain system and went back to the head of the plant. All NPW systems contributing flow to the scaled up drainage system were secured. The pipe cleaning contractor removed the scaling in the pipes restoring the drainage system's full capacity.	1100	100	NPW*	James River	

Table 3. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2014)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
10/28/2014	Boat Harbor	The SCADA tower contractor hit the sodium bisulfite feed line on 10/27/14 @ 4:00 pm. Plant flow was diverted to available tanks during the repair so no discharge occurred from the contact tank. The line was repaired and placed back into service by 7:30 pm. The excavation was not backfilled and the plant operator checked the repair site at 5:10 am during his rounds and found no problem. Shortly afterward, the carrying water flow in the line was increased and the line break was discovered at 6:28 am.	2	The flow to the feed line was secured by 6:30 am which stopped the spill. Approximately 230 gallons of nonpotable water (NPW) with a small amount of sodium bisulfite discharged to the nearest storm drain and could not be recovered. Flow was diverted to an out of service secondary clarifier and the plant drain was opened on one chlorine contact tank to contain the plant discharge flow. The entire line was dug up and replaced from the elbow to the previous break.	230	230	NPW*	James River	
12/18/2014	Army Base	Grit washer clogged and overflowed. A slurry of grit and nonpotable water (NPW) spilled onto the ground and into ditch.	5	Plant staff unclogged grit washer. Recovered the majority of the water discharged in the ditch and pumped it back into the plant drain system. The rest of the spill soaked into the ground.	100	20	NPW*	ground	
12/19/2014	Army Base	A 3" PVC nonpotable water line (NPW) ruptured due to a fluctuation in system pressure. Plant staff was testing the NPW system in anticipation of restarting the incinerator. A valve was exercised on one of the main NPW lines which resulted in a water hammer that damaged the smaller line.	15	Isolated the damaged section of the NPW system by closing valves. Contractor on site had covered valves and there was a delay in locating them. Repaired the ruptured pipe. Part of the spill was recovered but the majority of the spill soaked into the ground and could not be recovered.	500	400	NPW*	ground	
12/22/2014	Boat Harbor	Foam overflowed from three Return Activated Solids (RAS) vaults due to treatment process upset. Most of the foam was recovered but an estimated 120 gallons of foam from the vault located closest to the storm drain entered the storm drain before plant staff could secure the flow.	25	One RAS pump was secured and the foam on the ground was shoveled into a front end loader and then disposed into the headworks of the plant. An additional aeration tank was put into service, as well as an additional secondary clarifier.	750	120	wastewater	James River	

*NPW – Non-potable water (treated effluent)

Table 4. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2014)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled In Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO*	Discharge Quantity**	Amount Reaching State Waters**	DEQ IR	Occurred within past 5 years
7/10/2014 16:50	Chesapeake Blvd Pump Station	5734 Chesapeake Blvd	Wayne Creek	Norfolk	Capacity-Weather Related	High flows from torrential rainfall caused pump station to go into alarm status for overflow briefly from 4:50 to 5:02 pm and then from 5:08 to 5:19 pm. Rain gauge at Luxembourg Avenue Pump Station recorded 1.23" of rainfall within 15 minutes with a total of 1.8" in 30 minutes.	0 hour(s) 29 minute(s)	Checked pump station to ensure pumps were operating properly. Overflow gate was under water so flow could not be estimated. -----July 11, 2014 07:51 AM-----	-1	-1	SSORS#2015-T-104005	Yes
9/8/2014 15:39	Bridge Street Pump Station	4701 Victoria Blvd	Hampton River	Hampton	Capacity-Weather Related	Storms in area dropped massive amounts of rainfall which increased flow and caused station to overflow at tide gate. Rain gauge at station recorded over 5 inches of rain in 12 hours.	2 hour(s) 9 minute(s)	Checked station to ensure pumps were operating properly. Flow could not be estimated because tide gate was under water. -----September 9, 2014 09:02 AM-----	-1	-1	SSORS#2015-T-104040	Yes
9/9/2014 6:47	Bridge Street Pump Station	4701 Victoria Blvd	Hampton River	Hampton	Capacity-Weather Related	Storms in area dropped massive amounts of rain which increased flow at station and caused it to overflow at tide gate. Rain gauge at station recorded 7.65 inches over a 27-hour period.	5 hour(s) 34 minute(s)	Checked station to ensure pumps were operating properly. -----September 9, 2014 09:29 AM----- Flow amount could not be determined because tide gate was underwater. -----September 11, 2014 01:30 PM-----	-1	-1	SSORS#2015-T-104041	Yes
9/9/2014 3:26	Hilton School Pump Station	223 River Road	James River	Newport News	Capacity-Weather Related	Storms in area dropped massive amounts of rain which caused flows to increase and overflow manhole beside station. Rain gauge at station recorded 12.23 inches over a 24-hour period.	3 hour(s) 27 minute(s)	Checked station to ensure pumps were operating properly. Area was flooded so flow estimate could not be determined. Start and stop times are from alarm system. -----September 9, 2014 09:35 AM--- --Manhole was submerged during event. Start and stop times modified slightly on final notification report upon further review of the event. ----- September 11, 2014 01:35 PM-----	-1	-1	SSORS#2015-T-104042	Yes
9/9/2014 3:30	Center Avenue Pump Station	315 Center Avenue	Government Ditch to James River	Newport News	Capacity-Weather Related	Storms in area dropped massive amounts of rain which increased flow and caused station to overflow at weir structure. Rain gauge at Hilton School Pump Station recorded 12.23" of rainfall in a 24-hour period.	11 hour(s) 39 minute(s)	Checked station to ensure pumps were operating properly. -----September 9, 2014 09:42 AM-----	373,158	373,158	SSORS#2015-T-104043	Yes
9/8/2014 15:45	Manholes	1509 Bainbridge Boulevard	Scuffeltown Creek	Chesapeake	Capacity-Weather Related	Storms in area dropped massive amounts of rain which increased flow and caused three manholes near intersection of Bainbridge and Holly Avenue to overflow. The rain gauge at Ferebee Pump Station recorded 1.62" of rainfall within one hour with a total of 3.14" of rain in twelve hours.	3 hour(s) 40 minute(s)	Checked Park Avenue Pump Station to ensure pumps were operating properly. -----September 9, 2014 09:50 AM----- The pumps inside of the station were operating properly. The auxiliary pump that is onsite for emergencies did not start automatically. The pump was started manually to increase pumping capacity at the station. The pump and associated controls will be checked to ensure reliability in the future. -----September 10, 2014 12:56 PM-----	19,200	19,200	SSORS#2015-T-104044	Yes

Table 4. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2014)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled In Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO*	Discharge Quantity**	Amount Reaching State Waters**	DEQ IR	Occurred within past 5 years
9/9/2014 5:54	manholes	1509 Bainbridge Blvd	Scuffeltown Creek	Chesapeake	Capacity-Weather Related	Storms in area dropped massive amounts of rain which caused flow to increase and overflow three manholes near the intersection of Bainbridge and Holly Avenue. The rain gauge at Ferebee Pump Station recorded 5.39" of rainfall over a period of 24 hours.	3 hour(s) 14 minute(s)	Checked Park Avenue Pump Station to ensure pumps were operating properly. -----September 9, 2014 09:57 AM-----	9,300	9,300	SSORS#2015-T-104045	Yes
9/9/2014 8:28	manholes	King Street and Rudd Lane	Hampton River	Hampton	Capacity-Weather Related	Storms in area produced massive rain which increased flow and overflowed two manholes. Rain gauge at Bridge Street Pump Station recorded 7.65 inches over a 27-hour period.	3 hour(s) 22 minute(s)	Checked pump station to ensure pumps were operating properly. -----September 9, 2014 02:22 PM-----Start time modified from initial notification report upon further review of the event. -----September 11, 2014 01:42 PM-----	101,000	101,000	SSORS#2015-T-104058	Yes
9/9/2014 6:35	manhole	300 Terminal Avenue	Boat Harbor	Newport News	Capacity-Weather Related	Manhole overflow due to high flows. Area received massive amount of rainfall. Manhole is located outside of fence of the Boat Harbor STP. The STP rain gauge recorded a total of 15.5" of rainfall during September 8-9. Plant flow peaked at 66 MGD at approximately 4:40 am. Operator leaving the plant at end of shift observed water coming up along the roadway even though the area was flooded.	1 hour(s) 55 minute(s)	Cleaned area around manhole. Problem was discovered when vehicle hit open manhole. Overflow had stopped by the time of discovery so a spill amount cannot be determined. -----September 10, 2014 06:13 AM-----Time of discovery was modified from initial notification based on further review with plant staff. -----September 12, 2014 02:53 PM-----	-1	-1	SSORS#2015-T-104081	Yes
12/24/2014 15:42	Bridge Street Pump Station tide gate	4701 Victoria Blvd	Hampton River	Hampton	Capacity-Weather Related	Heavy rains caused high flows in system resulting in overflow at tide gate of station. Rain gauge recorded 1.82" of rainfall in 24-hour period.	1 hour(s) 50 minute(s)	Checked station to ensure pumps were operating properly. -----December 24, 2014 10:26 PM-----	-1	-1	SSORS#2015-T-104170	Yes

SEMI-ANNUAL REPORT FY 2015

6. PLANNED ACTIVITIES

HRSD will be continuing the overall program outlined in the Consent Decree in the remainder of FY 2015. The following sub-sections provide specifics on this work.

6.1 Flow, Pressure, and Rainfall Monitoring Program

6.1.1 Implementation of the FPR Monitoring Plan

Although not required by the Consent Decree, HRSD intends to continue to collect data from flow, pressure, and rainfall sensors in FY 2015, and plans to continue to operate a portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites (Telog server data). In FY 2015, HRSD will modify the network and delete and/or relocate some monitoring points.

6.1.2 LOP Status

In the remainder of FY 2015, HRSD will continue to coordinate with Localities following capacity-related SSOs in the Localities system. This will include coordinating with the Locality to review the occurrence, assist with evaluation of the problem, and, if practicable, help the Locality with interim or final solutions to mitigate the LOP.

6.2 Condition Assessment Plan

6.2.1 Implementation of the Condition Assessment Plan

6.2.1.1 Prompt Repairs

HRSD will continue to implement action plans to address the Prompt Repairs identified.

6.2.2 Rehabilitation Action Plan

In the remainder of FY 2015, HRSD will be implementing the June 2014 approved Action Plan.

6.3 Interim System Improvements

HRSD will continue to design and construct the projects listed in Appendix 5 of the Consent Decree that are required to be completed within 8 years of the Date of Entry. The Verification of Completion will be included in upcoming Annual Reports as the projects are completed.

6.4 Management, Operations, and Maintenance Program

6.4.1 Implementation of MOM Program

HRSD will continue to implement its MOM Program.

6.4.2 Quantitative Performance Measures

In the second half of FY 2015, HRSD will continue tracking the performance measures to determine how HRSD is implementing the program. This will include the list of six measures that are subject to stipulated penalties per Paragraph 34 of the Consent Decree. Progress on these measures will be documented in the FY 2015 Annual Report.

6.5 Regional Wet Weather Management Plan

Based on the Modification No. 3 to the Consent Decree, the deadline for the RWWMP has been extended to October 2017 to allow HRSD time to collect and analyze flow data and condition assessment data from numerous locations in the regional system, including many locality sewer basins. This field work is intended to be completed by June 2015 in order to incorporate the new information into the RWWMP development process. In addition, HRSD will be working to prepare the RHM and Locality Hydraulic Models (LHM) for RWWMP development.

6.6 SSO Emergency Response Plan

HRSD will continue to implement the approved SSO Response Plan.

6.7 Coordination with Localities

HRSD will continue to actively participate and facilitate a wide variety of coordination activities in FY 2015 amongst the regional parties to the SOC. These activities included:

- Meetings of the Capacity Team, as needed, to discuss issues related to the Consent Decree;
- Meetings of the Model Users Group, as needed, to discuss issues related to modeling;
- Periodic briefings of the Directors' of Utilities Committee to share progress on compliance with the Consent Decree; and
- Maintain a regional SharePoint website to collaborate with and provide documents to the regional Capacity Team.

6.8 Public Participation

HRSD will have an annual information meeting and publish a newsletter by the second anniversary of the Date of Entry, February 23, 2015. Information and approved plans continue to be posted to HRSD's website which is accessible to the public.

7. FORESEEABLE ISSUES RELATED TO UPCOMING COMPLIANCE DEADLINES AND MILESTONES

7.1 Hybrid Regionalization Approach to RWWMP

Modification No. 3 to the Consent Decree has dramatically changed the critical path for completion of the RWWMP. Rather than relying on Peak Flow Commitments from the Localities to load post rehabilitation flows into the Regional Hydraulic Model for the RWWMP, HRSD has taken the responsibility of estimating the I/I reductions it expects to achieve and the associate flows. To appropriately select these I/I reductions, a significant effort has been underway starting at the beginning of FY 2015 to collect additional flow monitoring data in locality sewer catchments with limited existing data, as well as collecting sanitary sewer evaluation survey (SSES) data in certain catchments identified for inclusion in the I/I reduction efforts. This work is expected to be completed by June 2015 with I/I reduction estimates made for inclusion in the post-rehab capacity evaluation scheduled for late 2015.

During this process of I/I reduction planning, the localities have continued to provide data (facility data and flow parameter changes) that impacts what sewer catchments may be included or not included in the program implementation, and what reductions might be achieved. As the coordination with the localities continues in FY 2015 and beyond, any delays or extensive changes in the data sets from the localities impact HRSD's ability to meet the Consent Decree schedule. HRSD will continue to work diligently with the localities to obtain the best available information for development of the RWWMP.

This page left blank intentionally.

8. SIGNIFICANT ISSUES THAT REQUIRE A CHANGE IN THE
CONSENT DECREE REQUIREMENTS

No issues to document in this Semi Annual Report other than the ongoing coordination with localities to implement the hybrid approach to regionalization of the RWWMP, as described in Section 7.

This page left blank intentionally.