



EPA Consent Decree
Annual Information Meeting
Regional Wet Weather
Management Plan

January 28, 2014

Requirements of the Consent Decree

- *“...after providing reasonable notice on its webpage and in a newspaper of general circulation”*
- *“...shall hold an annual informational meeting open to the Localities and the public”*
- *“HRSD shall convey information on the status of the RWWMP, HRSD – Locality cooperation and steps citizens within the Localities can take to protect the receiving waters”*

Objective of the Consent Decree

- “HRSD, working in coordination with the Localities, to fulfill the objectives of the Clean Water Act with a goal of eliminating Sanitary Sewer Overflows (SSOs)”
- The Regional Wet Weather Management Plan will establish the Level of Service for elimination of SSOs



HRSD and the Regional Sewer System

HRSD System

- ~ 430 miles of large diameter force main
- ~ 50 miles of gravity sewer
- 81 pump stations
- 13 treatment plants

Regional Network

- 1.6 million served
- 5,800 miles of gravity sewer
- 1,500 pump stations
- 1,200 miles of force main

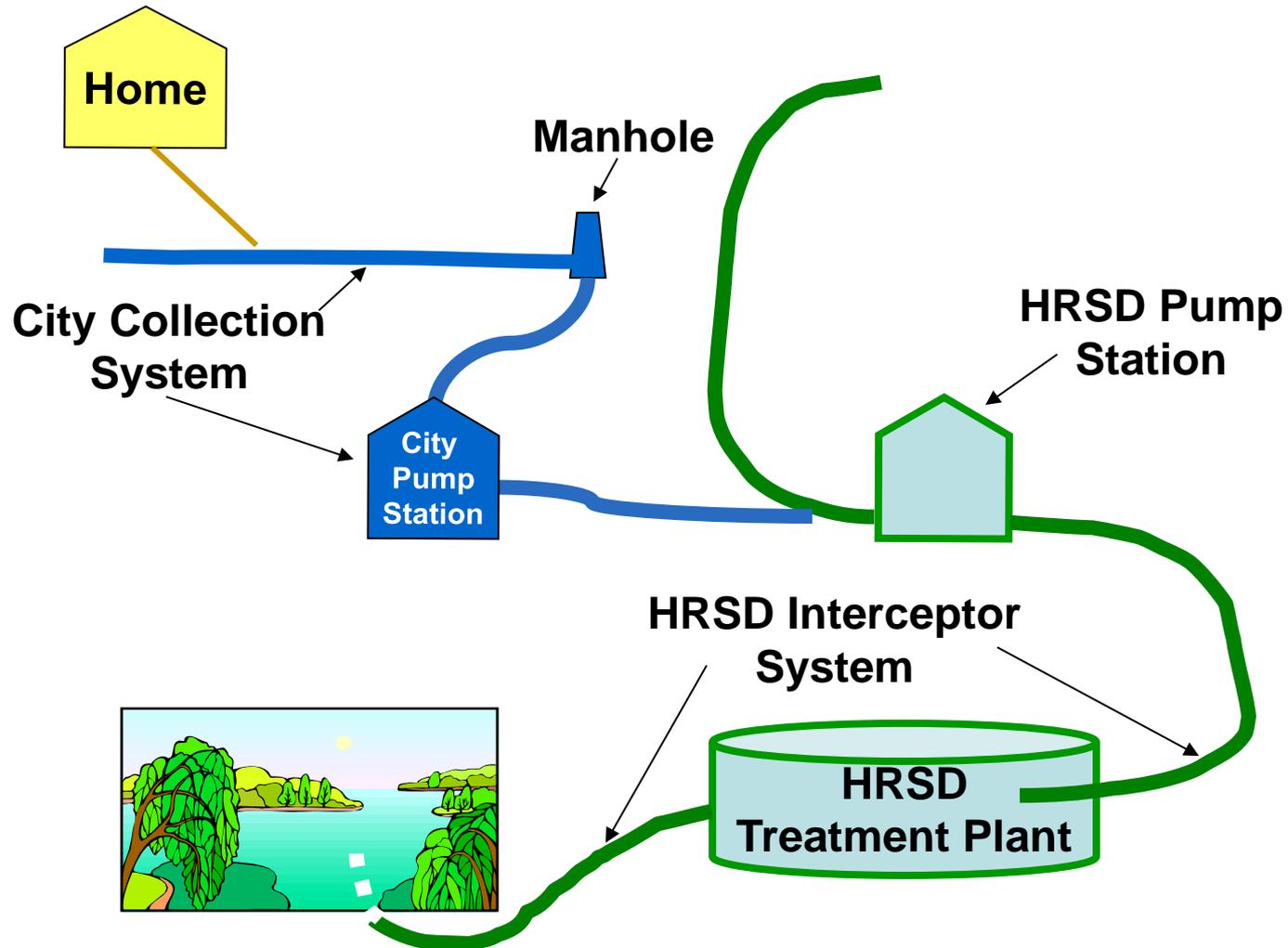
HRSD is Partnered With Localities

Localities in State Order

- Chesapeake
- Gloucester
- Hampton
- Isle of Wight
- James City Service Authority
- Newport News
- Poquoson
- Portsmouth
- Smithfield
- Suffolk
- Virginia Beach
- Williamsburg
- York County

Note: There is an older State Order
with Norfolk

Regional Sanitary Sewer System



- Participants include EPA, DEQ and localities
- Twice per year in quarters when annual or semiannual reports are not due (typically July and January)
- Next briefing will be held in February

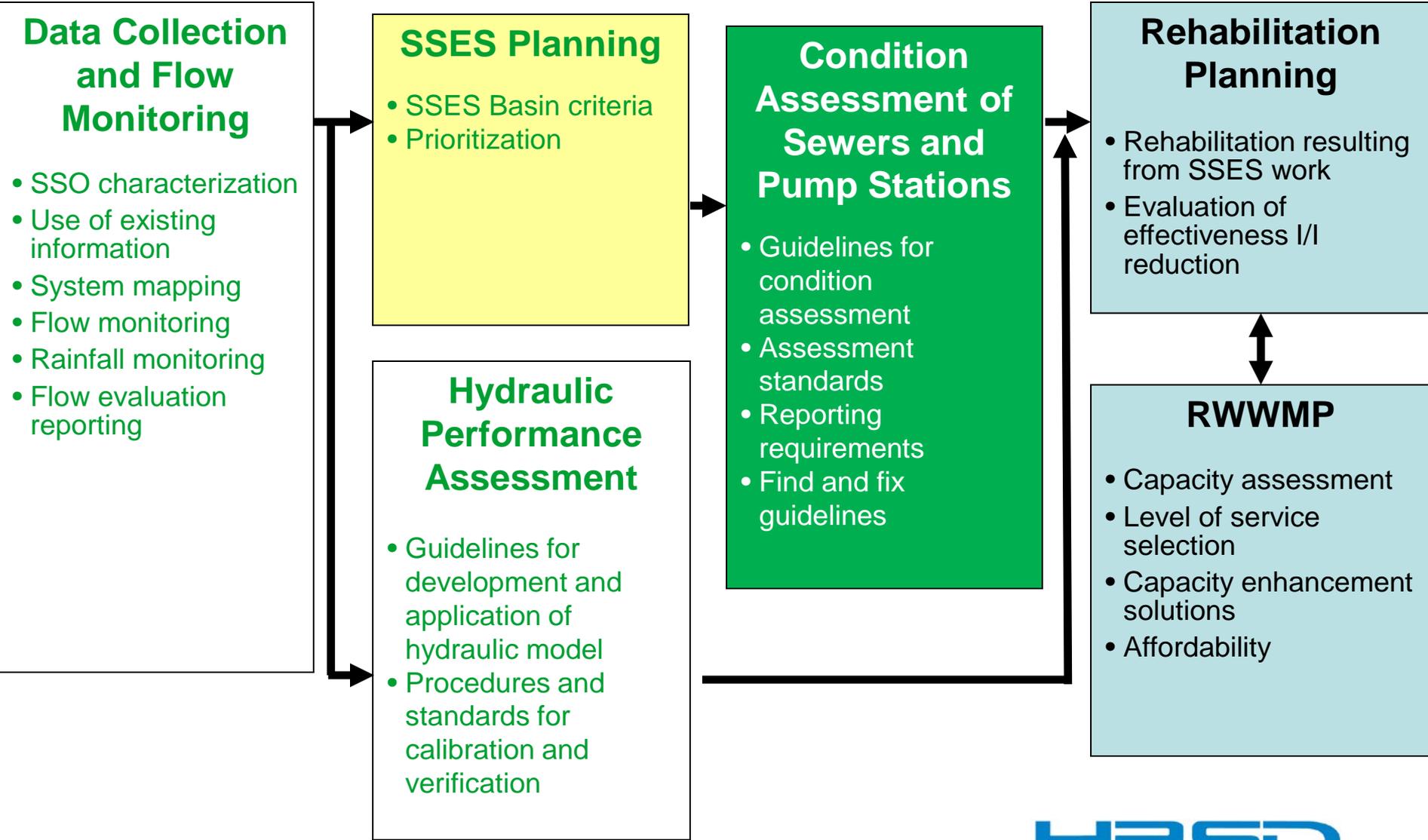
Overall Regulatory Status

- Region is in compliance with DEQ Special Order by Consent
- Federal Consent Decree was entered with the court on February 23, 2010
- All Consent Decree required submittals have been on time

Major Consent Decree Compliance Requirements

- Flow, Pressure and Rainfall Monitoring
- Regional Hydraulic Model and Assessment
- Condition Assessment Plan
- Interim System Improvements
- Management, Operations and Maintenance (MOM)
- Regional Wet Weather Management Plan (RWWMP)
- Post RWWMP Implementation Monitoring and Performance Assessment

State Consent Order Overview



Regional Data Collection Efforts

- Consent Decree flow monitoring requirements completed in 2011
- HRSD is maintaining an extensive Flow, Pressure and Rainfall (FPR) network (greater than 360 measurement instruments) operational since completion of requirements
- Data Quality Assurance Program is in place
- FPR network will continue to provide data needed for development of RWWMP and for post-implementation performance measurement

Regional Hydraulic Model

- Regional Hydraulic Model Report (submitted on July 31, 2011) was accepted with no further comments by EPA/DEQ in July 2012
- Extensive coordination with localities continues on model inputs

Condition Assessment Program

- Field activities under the Consent Decree are complete – program will continue in perpetuity in accordance with schedule in MOM
- Prompt Repair contract is ongoing to address severe defects
- Final Condition Assessment Reports and Action Plan was submitted to EPA/DEQ on February 12, 2013.
- Update to Action Plan will be submitted by February 12, 2014

Condition Assessment Program

Inspection Type	Performance To Date
Force Main Inspection	
- Level 1 Inspections	155,994 LF (Requirement Complete)
- Reservoir FM Inspection	19,019 LF (included in Level 1 above)
- Level 2 Inspections	Complete
- Group Ferrous Inspections	~ 90,000 LF (Requirement Complete)
Gravity Main Inspection	260,000 LF (Requirement Complete)
Manholes/Structures	1,293 Manholes or Structures (Requirement Complete)

Prompt Repairs Program

- Systematic review of data to identify defects requiring Prompt Repair
- 50 individual sewer system defects have been identified as meeting criteria
- 37 of 50 Prompt Repair defects have been completed

Rehabilitation Action Plan

- Addresses condition defects identified in Consent Decree Condition Assessment Program
- Addresses gravity mains, force mains, pump stations, and associated system components
- Plan submitted in 2013 identified \$173 M in projects

Interim System Improvements

- Consent Decree includes requirement to complete 33 CIP projects totaling \$140 million by February 23, 2018.
- Several projects completed, many in construction, most of remainder in design
- Additional projects added as part of the Consent Decree modification are also progressing
- On track for completion by 2018 deadline

Consent Decree/SSO Reduction Project Updates

- 33 CIP projects were included in the original Federal Consent Decree.
- 18 CIP projects were added to the Federal Consent Decree as part of the negotiation to consider regionalization of the sanitary sewer system.
- These projects involve improvements to the interceptor sewer system and numerous pump stations.
- HRSD has until **February 23, 2018** to complete these projects.

Ref No.	CIP Proj. No.	Project Title	Consent Decree Estimate	Authorized	Status
1	BH-111	Claremont Avenue Pump Station Rehabilitation	\$1,500,000	\$2,202,900	Complete
2	AT-100	Atlantic Pressure Reducing Station Emergency Generator Replacement	\$1,000,000	\$1,281,100	Complete
3	AT-113-2	Lake Ridge Interceptor Force Main Section B - Contract 2 (Land)	\$3,000,000	\$2,676,700	Complete
4	YR-100	Big Bethel Road to J Clyde Morris Boulevard Interceptor Force Main Replacement	\$2,500,000	\$2,718,400	Complete
5	JR-109-1	Williamsburg-James River Connection Force Main Section II and Lucas Creek-Woodhaven Interceptor Force Main Replacements - Phase I	\$4,000,000	\$1,904,300	Complete
6	YR-108	Route 171 Interceptor Force Main	\$8,000,000	\$6,275,200	Complete
7	YR-104	Kiln Creek Interceptor Force Main	\$7,000,000	\$6,403,400	Complete
8	VIP-120	South Trunk Sewer Section F 20-Inch, Section H 8-Inch, and Section H 12-Inch Interceptor Force Main Replacement and Gravity Sewer Chesterfield Blvd. Replacement	\$11,000,000	\$6,366,600	Complete
9	AT-108	Eastern Branch Sections A & B, Green Run Section C, and 24-Inch Kempsville Road Force Main Replacements	\$6,000,000	\$6,145,600	Complete
10	VIP-106	North Trunk Sewer Section W 8-Inch and 12-Inch Force Mains and Larchmont Force Mains (Formerly Siphon Lines) Replacements	\$2,000,000	\$ 270,700	Design

Ref No.	CIP Proj. No.	Project Title	Consent Decree Estimate	Authorized	Status
11	VIP-105	North Trunk Sewer Section R 6-Inch Interceptor Force Main and 10-Inch Gravity Replacement	\$1,000,000	\$2,653,502	Complete
12	VIP-104	North Trunk Sewer Section D 24-Inch Interceptor Force Main Replacement	\$6,000,000	\$5,777,927	Complete
13	AT-112-2	Hilltop/Point O'Woods Interceptor Force Main Replacements; Section B	\$6,000,000	\$6,576,300	Complete
14	AT-112-1	Hilltop/Point O'Woods Interceptor Force Main Replacements; Section A	\$5,000,000	\$6,576,300	Complete
15	WB-107	Williamsburg Interceptor Force Main Contract A Replacement	\$6,000,000	\$ 578,600	Design
16	BH-100	33rd Street Pump Station Replacement/Rehabilitation	\$3,000,000	\$ 467,338	Design
17	VIP-133	Sanitary Sewer System Portsmouth VA Contract A Clifford Street Force Main	\$1,000,000	\$1,162,862	Complete
18	BH-114	James River Diversion 35th Street Phase III and Boat Harbor Outlet Sewer Relocation I-664 Rehabilitation	\$2,000,000	\$ 979,053	Complete
19	BH-112	Hampton Trunk Sewer Division A Replacement	\$1,000,000	\$ 181,122	Design
20	JR-106	Lucas Creek Pump Station Upgrade	\$2,000,000	\$ 98,100	Study

Ref No.	CIP Proj. No.	Project Title	Consent Decree Estimate	Authorized	Status
21	VIP-131	South Trunk Sewer Section C-42 inch Force Main Replacement	\$ 4,000,000	\$12,709,900	Construction
22	AB-105	Section W Force Main Replacement	\$ 1,000,000	\$ 224,200	Design
23	YR-101	Coliseum Drive Pressure Reducing Station	\$ 6,000,000	\$13,562,800	Construction
24	JR-100	Center Avenue Pump Station Replacement	\$ 4,000,000	\$ 3,365,600	Construction
25	VIP-130	Norchester St Pump Station Replacement/Rehabilitation	\$ 2,000,000	\$ 5,552,300	Construction
26	AT-114	Providence Road Pressure Reducing Station Modifications	\$ 2,000,000	\$ 3,007,300	Construction
27	BH-101	58th Street Connecting Sewer Rehabilitation	\$ 1,000,000	\$ 1,643,662	Construction
28	BH-116	Bridge St. Pump Station Replacement/Rehabilitation	\$ 2,000,000	\$ 0	Not Started
29	VIP-132	South Trunk Sewer Section G-36 inch Force Main Replacement	\$ 3,000,000	\$ 992,790	Design
30	GN-128	Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements	\$ 10,000,000	\$ 4,537,200	Design
31	NP-106	Wilroy Pressure Reducing Station, Pughsville PRS Upgrades, Suffolk PS Upgrades	\$ 12,000,000	\$ 236,900	Design
32	AB-100	Army Base 24-Inch and 20-Inch Transmission Main Replacements	\$ 7,000,000	\$ 3,139,100	Design
33	JR-108	Normandy Lane Interceptor Force Main Replacement	\$ 7,000,000	\$ 1,280,600	Design
			\$140,000,000	\$111,548,400	

Ref No.	CIP Proj. No.	Project Title	Consent Decree Estimate	Authorized	Status
1	AT-116-1	Courthouse Interim Pressure Reducing Station	\$1,500,000	\$265,700	Design
2	AT-126	Great Neck Road IFM Replacement – Section A	\$4,500,000	\$5,666,433	Construction
3	AT-128	Military Highway Interim Pressure Reducing Station	\$750,000	\$198,926	Design
4	BH-120	Hampton Trunk Sewer Extension Division E – Gravity Replacement	\$750,000	\$121,849	Design
5	BH-131	Victoria Boulevard Pump Station	\$3,600,000	\$672,100	Design
6	BH-145	Ivy Home – Shell Road Sewer Extension Division I - Replacement	\$1,500,000	\$0	Not Started
7	GN-139	South Shore Interceptors Air Vent Rehabilitation	\$2,500,000	\$0	Not Started
8	GN-142	North Shore Air Vent Replacements	\$1,200,000	\$1,246,000	Construction
9	JR-101	Center Avenue Pump Station Service Area I/I Remediation	\$4,000,000	\$5,009,511	Construction
10	JR-110	Middle Ground Boulevard – City Center Interconnect Force Main	\$5,000,000	\$5,858,900	Construction
11	JR-115	Center Avenue I&I Remediation – Phase II	\$3,000,000	\$26,569	Study
12	JR-117-1	Jefferson Avenue IFM Replacement – Phase I	\$4,500,000	\$427,677	Design

Ref No.	CIP Proj. No.	Project Title	Consent Decree Estimate	Authorized	Status
13	JR-120	Warwick Boulevard to James River Influent Force Main - Section 3	\$5,000,000	\$0	Not Started
14	NP-118	Holland Road 24-inch IFM – Section A	\$14,000,000	\$1,634,114	Design
15	NP-122	Pughsville Pressure Reducing Station Upgrades	\$5,000,000	\$176,316	Design
16	VIP-115	Sewerage System Improvements Division C	\$750,000	\$168,173	Design
17	VIP-164	Lafayette River Crossing/Norview – Estabrook Force Main Replacement	\$3,000,000	\$4,192,700	Construction
18	YR-123	Hampton Pump Station 023 Upgrades and Discharge Force Main	\$750,000	\$650,100	Construction
			\$61,300,000	\$26,315,000	

Management, Operations, and Maintenance Program

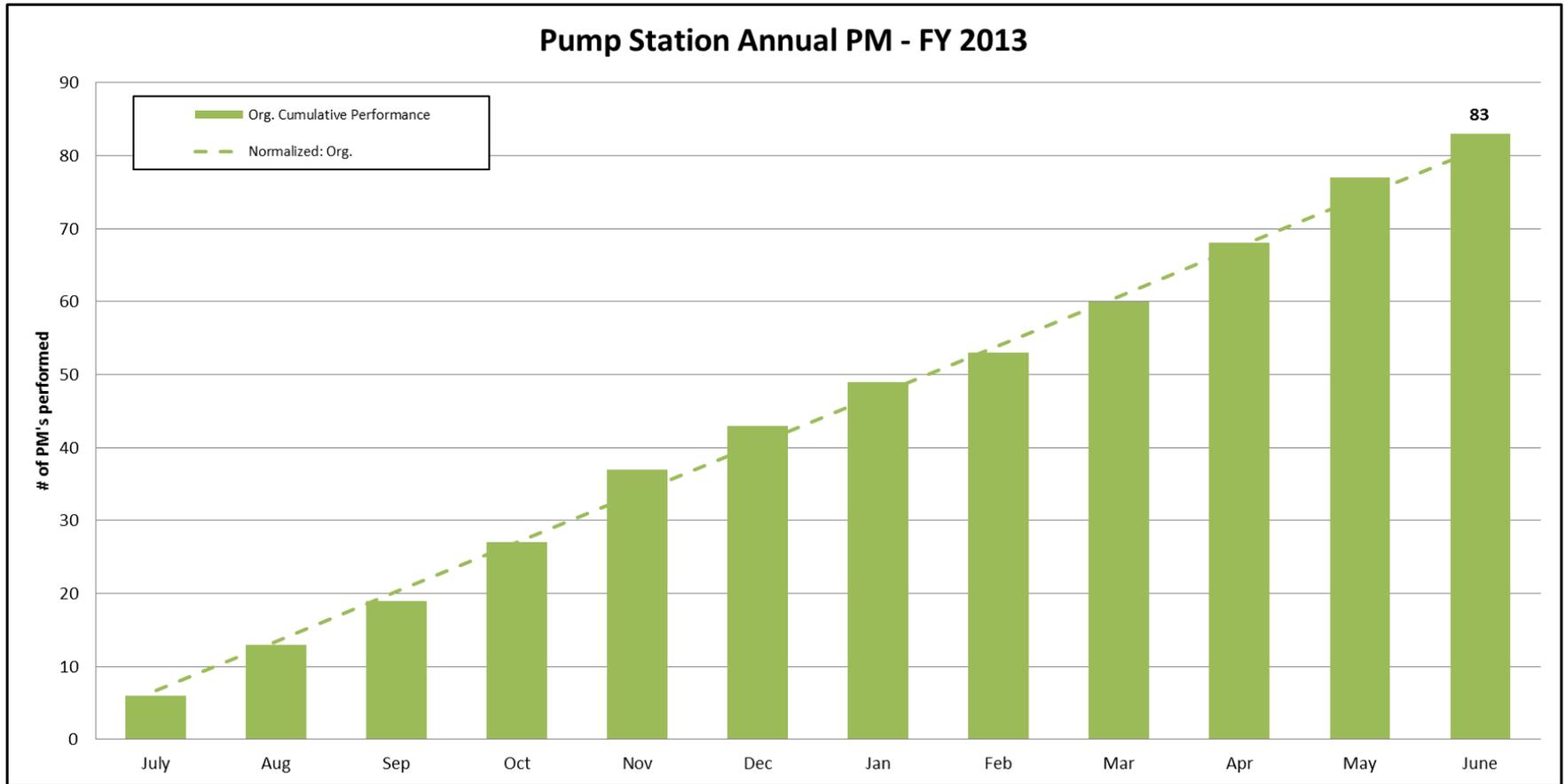
- MOM program approved in 2011
- Implementation of enhancements to existing programs is ongoing
- Performance measures are continuing to be tracked to evaluate the effectiveness of the programs

FY2013 MOM Program Performance

- 56 metrics targeted for FY2013
- 46 met or exceeded specified goals
 - Includes 6 Consent Decree required metrics
- 5 require updated tracking mechanisms
- 5 metrics fell just short of targets
 - SSO Response Within 2 Hours (98%, 1 event missed response due to miscommunication)
 - SSO Reporting to DEQ within 24 hours (95%, 2 events missed)
 - Miss Utility “No Shows” (3 tickets missed)
 - Involvement in Locality Meetings
 - CIP Planning/Project Completion (68%)

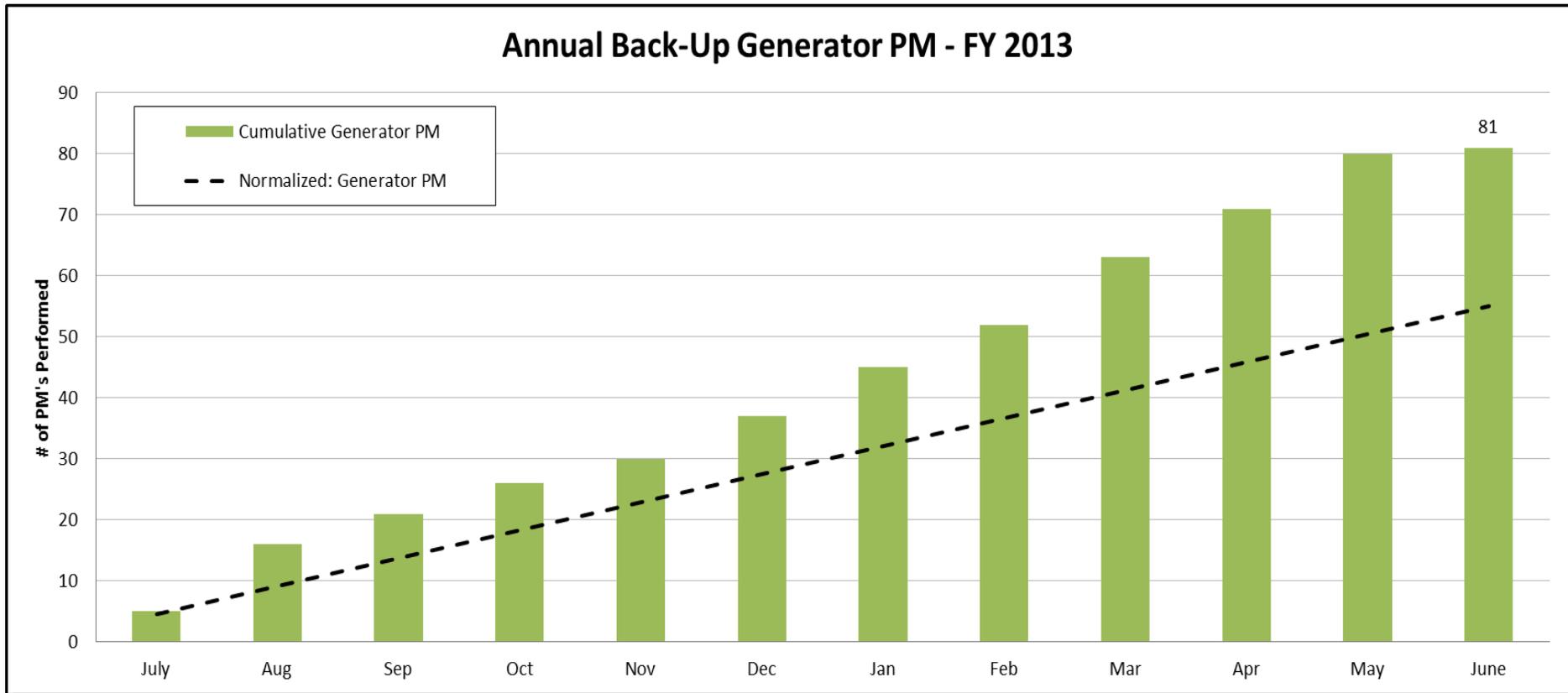
Consent Decree Performance Measures Review

Annual Pump Station preventative maintenance; Goal 82 performed per year



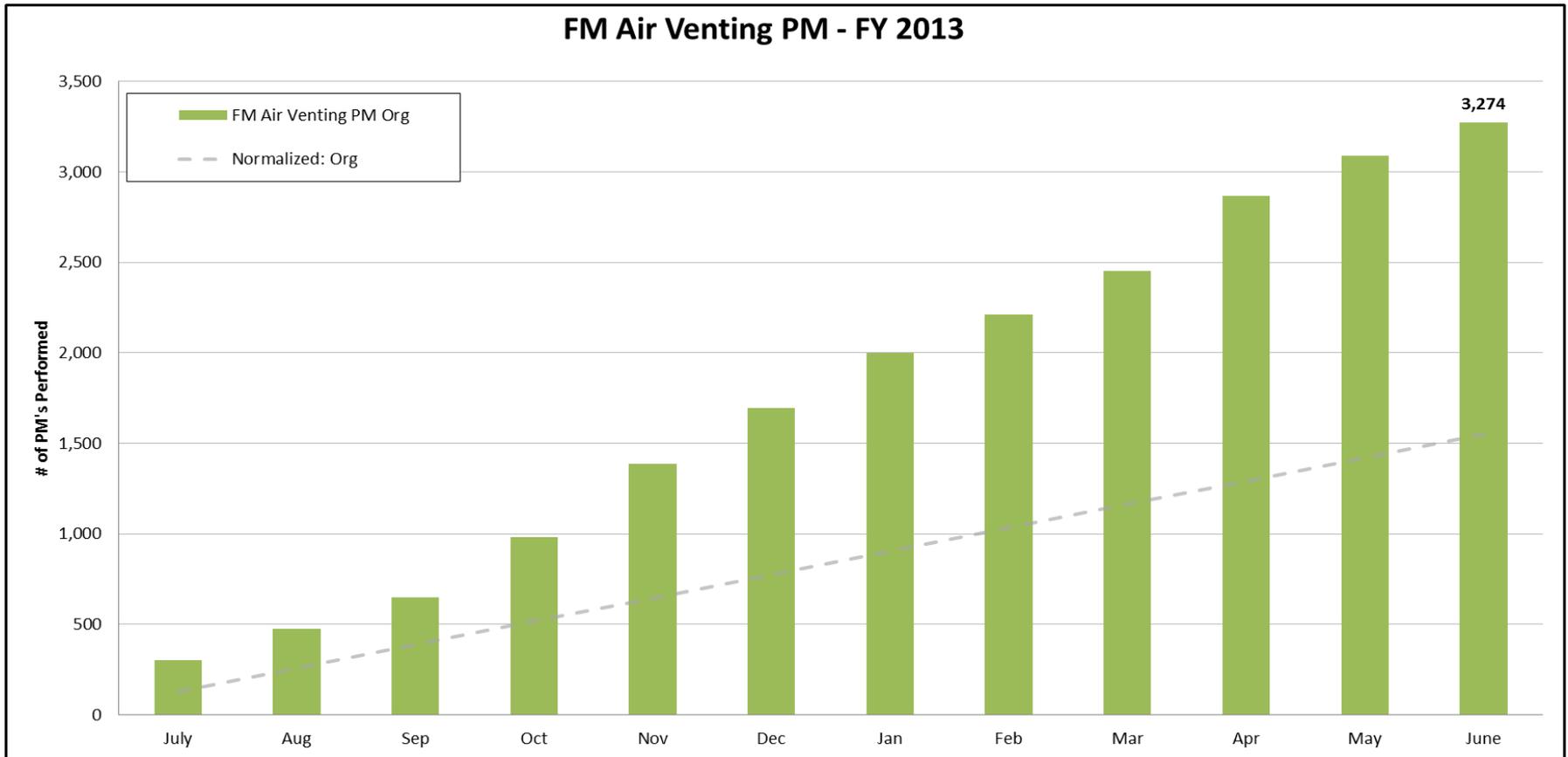
Consent Decree Performance Measures Review(Cont)

Annual Generator preventative maintenance; Goal: 55 performed per year



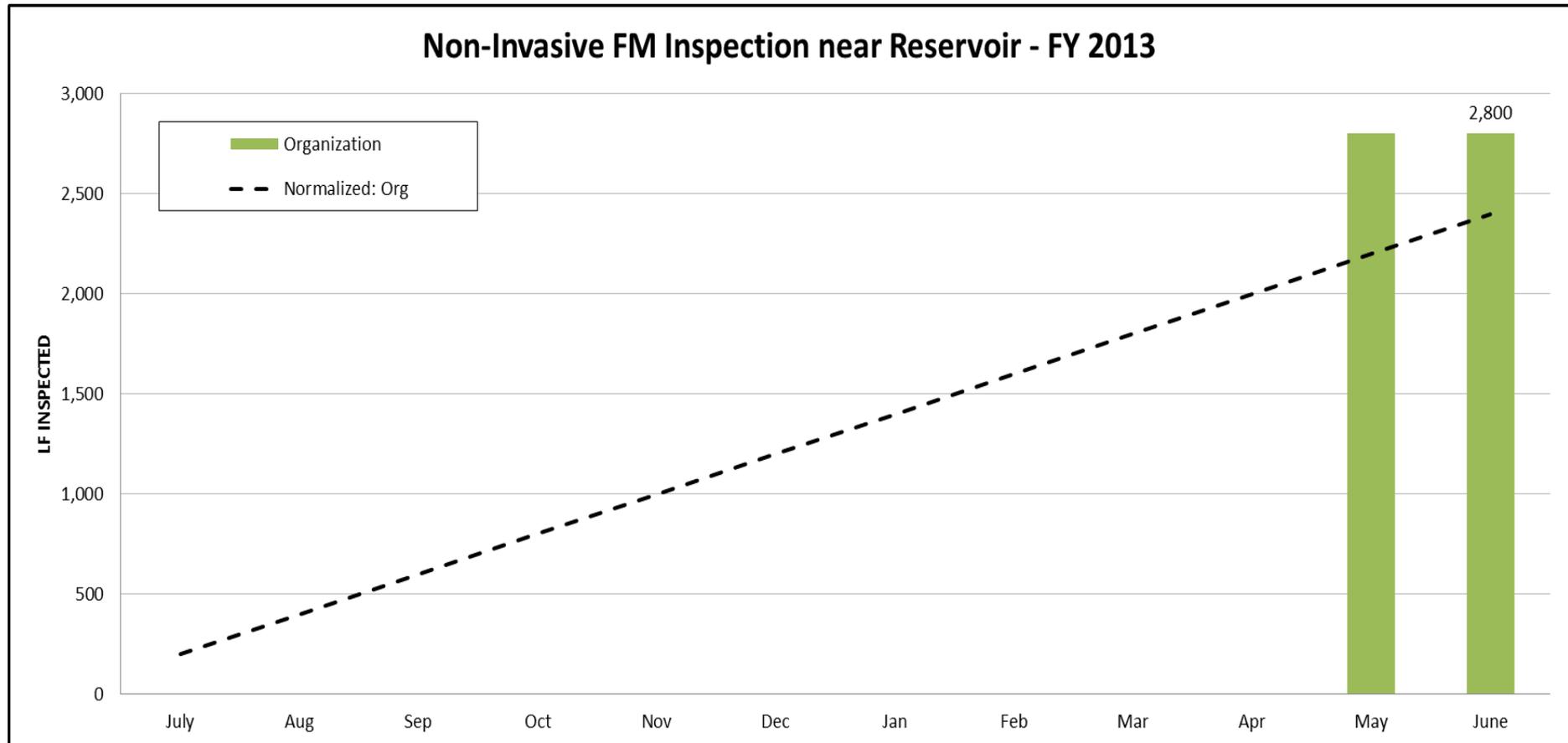
Consent Decree Performance Measures Review (Cont.)

Air Release Valves preventative maintenance; Goal: 1,550 performed per year



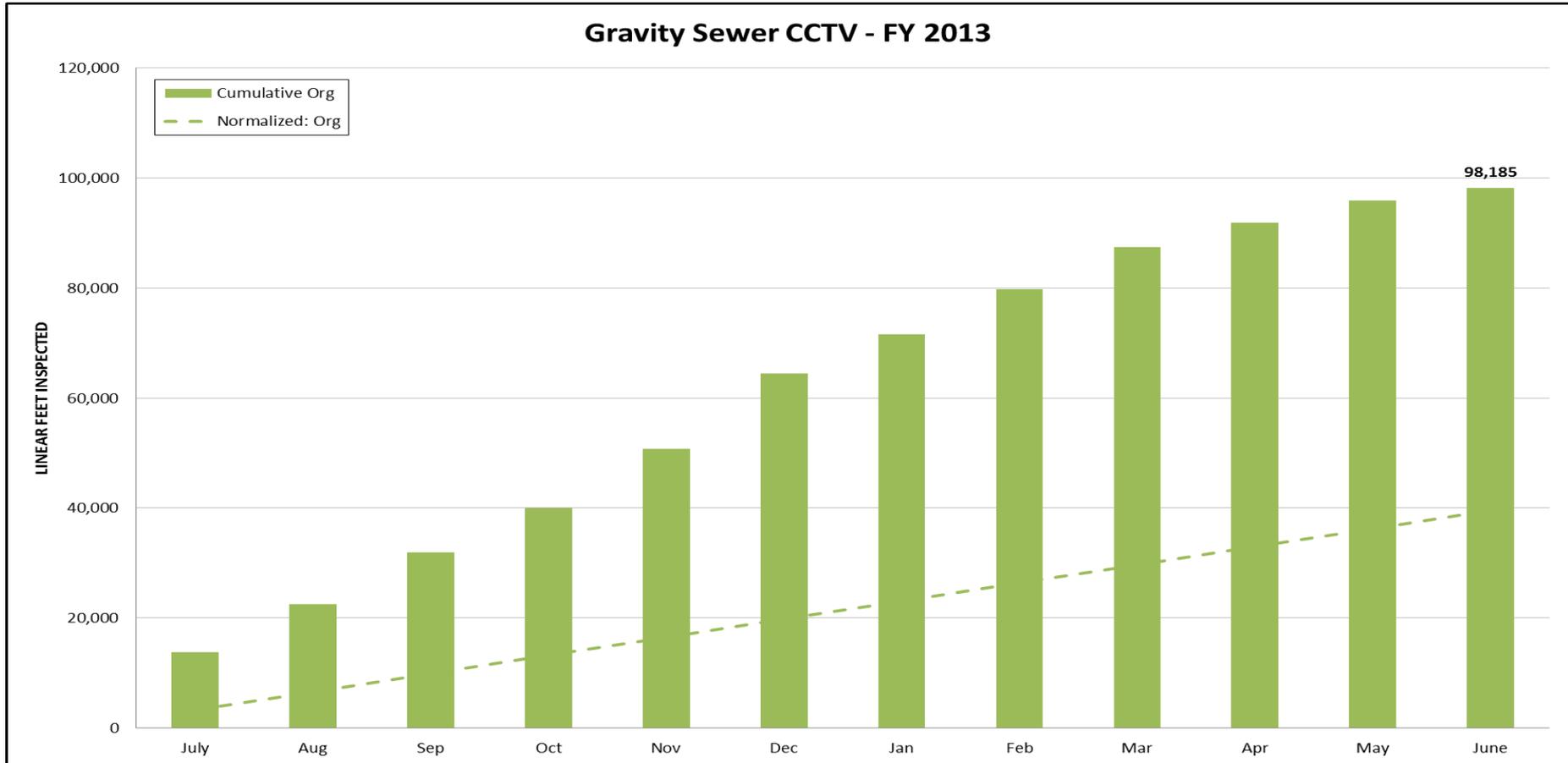
Consent Decree Performance Measures Review (Cont.)

Non-invasive Force Main Inspection (near reservoirs); Goal: 2,400 LF per year



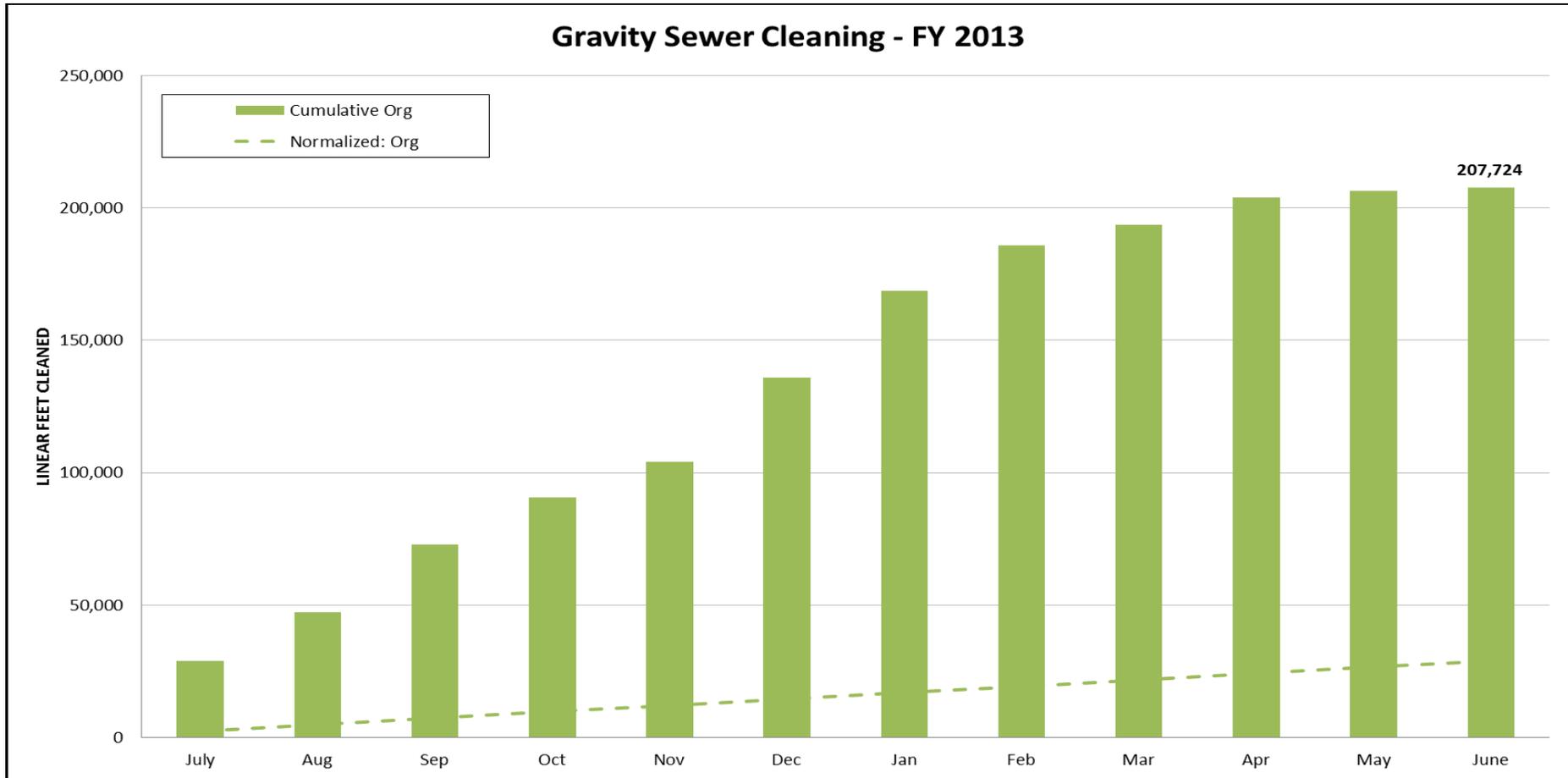
Consent Decree Performance Measures Review(Cont)

Gravity Sewer Inspections; Goal: 39,600 linear feet per year



Consent Decree Performance Measures Review (Cont.)

Gravity Sewer Cleaning; Goal: 24,600 linear feet per year



Consent Decree Performance Measures Review

Year over Year Performance Summary

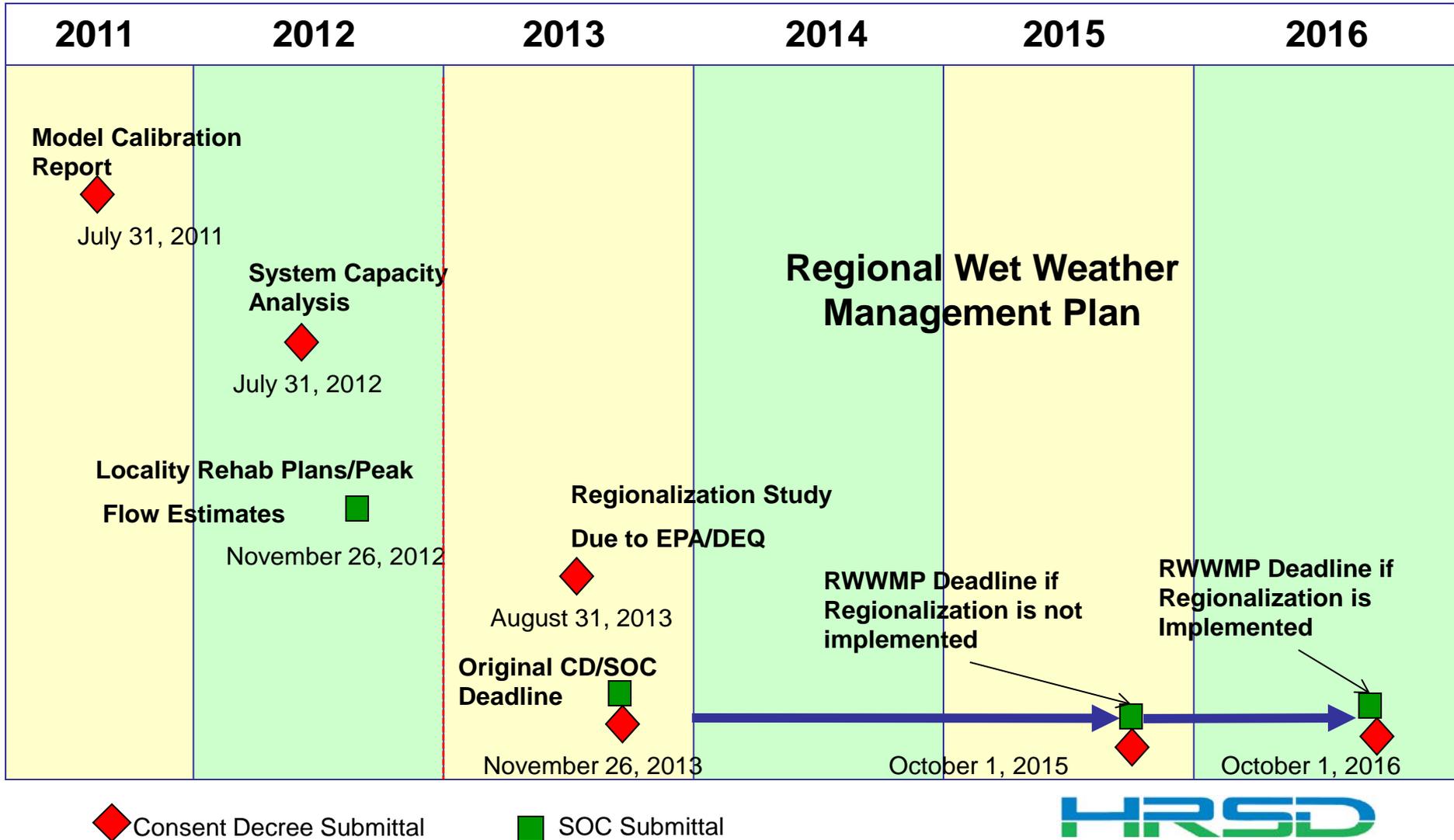
Metric	Target	FY2012 Actual	FY2013 Actual
Pump Station Annual PM	83	84	83
Back-up Generator Annual PM	55	112	81
Force Main Air Vent PM	1,550	3,096	3,274
Non-Invasive Force Main Inspection	2,400 LF	15,098 LF	2,800 LF
Gravity Sewer Inspection	39,600 LF	72,730 LF	98,185 LF
Gravity Sewer Cleaning	29,400 LF	234,463 LF	207,724 LF

- Extensive coordination will be necessary with localities
- RWWMP will establish the projects, costs and schedule to address capacity challenges to a selected level of service
- Approved RWWMP will be incorporated into the Consent Decree by reference
- RWWMP development schedule is very tight

- Regional Hydraulic Model achieved final calibration
- Pilot storage project under construction
- Preliminary Capacity Assessment submitted to EPA/DEQ
- Localities have shared their Preliminary Rehab Plans and Associated Preliminary Peak Flow Estimates

- Regionalization Study was completed and submitted on time to EPA/DEQ
- Localities were not in favor of total asset transfer at this time
- Hybrid regionalization is under consideration
- Localities and HRSD to decide on hybrid approach by February 28, 2014

Consent Decree RWWMP Development Schedule



Short Term Wet Weather Operational Plan

- Purpose of the Plan is to identify how to get the most capacity out of the existing system prior to RWWMP
- EPA/DEQ approved plan on April 23, 2012
- Plan reviewed periodically for updates

- Purpose of the plan is to document SSO response, reporting, recordkeeping and resolution practices
- Original plan approved by EPA/DEQ
- Updated Plan submitted to EPA/DEQ in December 2013

SSO Response Plan

	2011 SSOs	2011 Volume (gallons)	2012 SSOs	2012 Volume (gallons)	2013 SSOs	2013 Volume (gallons)
HRSD	35	1,879,591	40	22,847,617 **	14	714,077

2010 HRSD SSOs of Unknown Volume: 3
 2011 HRSD SSOs of Unknown Volume: 13
 2012 HRSD SSOs of Unknown Volume: 6
 2013 HRSD SSOs of Unknown Volume: 2

2010 Total Rain near ORF: 53 inches
 2011 Total Rain near ORF: 55 inches
 2012 Total Rain near ORF: 52 inches
 2013 Total Rain near ORF: 47 inches

**Included single SSO at Wilroy Road of 18,352,000 gallons. Remaining volume ~4,500,000 gallons for 2012

Coordination with Localities

- Periodic meetings of Capacity Team
- Monthly Directors' of Utilities meetings
- HRSD providing GIS, flow, pressure and rainfall data to localities

- Annual newsletter (third due out before February 23, 2014)
- Annual public informational meeting with public notice (January 28, 2014)
- Public outreach regarding overflows
 - *“...a public outreach program to inform the public of any SSO Outfalls within the Regional SS System, the possible health and environmental effects of SSOs and that recreational activities, such as swimming, should be limited as a result of such SSOs.”*

Reporting Requirements

- Annual report was submitted November 1, 2013 for period through June 30, 2013
- Semi annual report is due May 1, 2014 for period of July 1, 2013 through December 31, 2013

Steps Citizens Can Take to Protect Receiving Waters

- Report Sanitary Sewer Overflows – Call your local utility department
- Inspect home, yard and sewer service pipes to ensure separation between storm and sanitary systems
- Practice proper disposal of pharmaceuticals, food wastes and kitchen grease – minimize use or eliminate garbage disposal
- Reduce storm water runoff by using rain barrels, rain gardens and establishing a buffer

Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Improve water quality by raising oysters
- Limit synthetic fertilizer and other lawn chemical applications – use natural products like compost
- Pick up animal waste
- Avoid feeding wildlife
- Support “No Dumping” and use boater pump out facilities

Questions?
