

Environmental Annual Report

Fiscal Year 2011



Greenland Energy Center



FY 2011

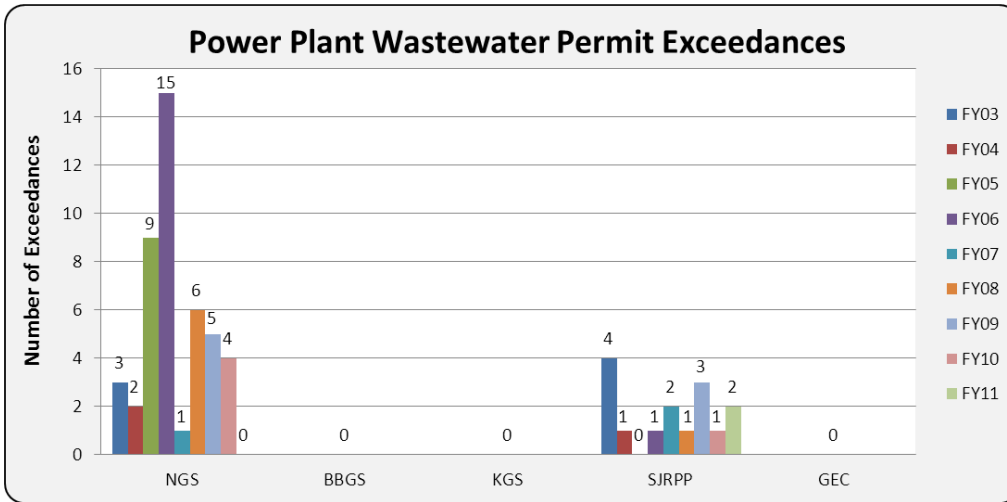
Environmental Compliance Annual Report

Water Compliance:

- ✓ On May 10, 2011, the St. Johns River Water Management District (SJRWMD) issued a 20-year Consumptive Use Permit (CUP) to JEA. The CUP will allow JEA to meet the future water supply needs of its customers for the next 20 years, while ensuring protection of the water resource. The District concluded that JEA had provided reasonable assurance that it had met or exceeded all criteria related to the requirements for issuance of a CUP.
- ✓ JEA is the 2nd largest water utility in Florida serving customers in Duval, Nassau, St. Johns and Clay Counties. It currently serves 718,000 persons and is projected to serve 1,026,000 persons in 2031. The permit consolidates 27 JEA water-use permits, which have a combined allocation of 155 million gallons of water per day (mgd), into one permit. JEA was not permitted for any increase in allocation through 2031. The water will be used for public supply.
- ✓ Highlights of the permit include:
 - JEA plans on meeting 33% of its future 2031 water demand or 20.48 million gallons a day through additional conservation and reuse.
 - In 2031, JEA's residential per capita water use will be 88 gallons per day, which is the lowest among large water utilities within the District and one of the lowest in Florida.
 - Permit contains 42 limiting conditions including comprehensive monitoring designed to prevent adverse environmental impacts and JEA estimates it will spend more than \$288 million to comply with these conditions.
- ✓ The CUP requires JEA to prepare an alternative water supply facilities master plan by 2015 to develop nontraditional water sources to supplement its groundwater allocation, as necessary. Construction of the West Nassau Water Treatment Plant (WTP) was completed on August 5, 2011, with a rated capacity of 1.4 MGD. The plant was inspected and cleared for service by the Florida Department of Environmental Protection (FDEP) on August 19, 2011.
- ✓ JEA exceeded plant capacities at 2 water treatment plants this year because of construction projects. Southeast WTP exceeded its rated plant capacity for approximately 100 days during FY2011. This was due to a tank at Oakridge WTP being out of service for a roof replacement. Lofton Oaks WTP exceeded its rated capacity for 25 days due to the West Nassau WTP being off-line for aerator tank modifications. There have been no further exceedances since both projects were completed.
- ✓ In September 2011, the Lofton Oaks water system exceeded the maximum contaminant level (MCL) for total coliform standards set by the Environmental Protection Agency (EPA). Additional confirmation sampling was immediately performed which indicated that the water was safe. However, regulations required JEA to notify all customers on the Lofton Oaks Grid of this incident by individual mail-outs and through a newspaper public notice. Approximately 4,300 customers received this notification.
- ✓ The CUP requires JEA to install 11 wetland monitoring wells and an upper and lower Floridan monitoring well in the Main Street area by June 2012. A location for the Floridan wells at the Downtown Chiller Plant was approved by the SJRWMD and the project is on schedule. All of the wetland monitoring well locations have been selected (including alternative sites), and permission has been obtained by the various property owners. The SJRWMD approved the sites and the project is on schedule.

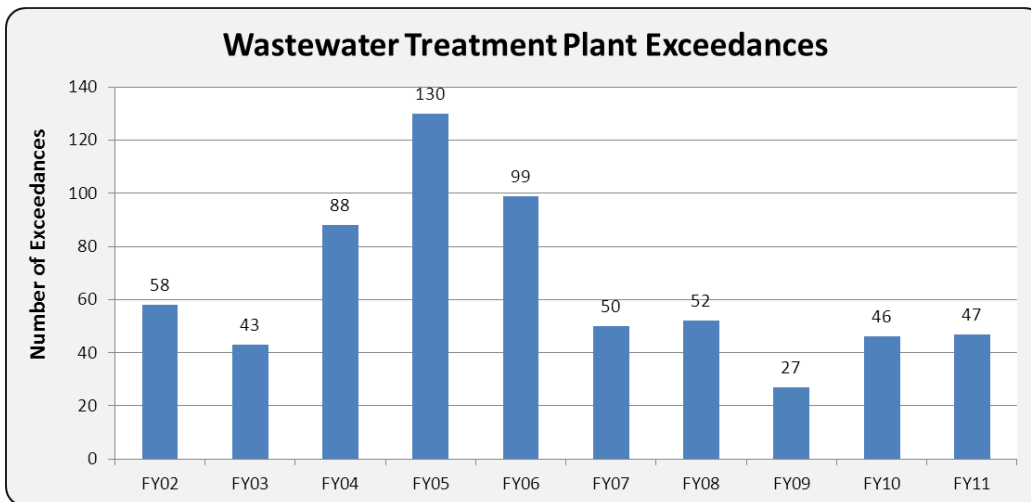
Power Plant Wastewater Compliance:

- ✓ The total number of JEA power plant wastewater discharge exceedances for FY2011 was 2 compared to 5 in FY2010. Northside generating Station (NGS), Brandy Branch Generating Station (BBGS), and Kennedy Generation Station (KGS) did not experience any wastewater exceedances in FY2011.
- ✓ SJRPP experienced 2 exceedances for Mercury in FY2011. The exceedances are being addressed through the relocation of the SJRPP permitted compliance sampling location to the combined NGS/SJRPP plant discharge. The revised sample location will be incorporated into the reissuance of the SJRPP/NGS wastewater discharge permit or National Pollutant Discharge Elimination System (NPDES) permit.
- ✓ The NPDES renewal application for SJRPP was submitted which included the request to combine both the SJRPP and NGS NPDES permit into one permit. A draft combined NPDES permit has been issued by the Florida Department of Environmental Protection, which includes the revised sample location as requested by JEA.

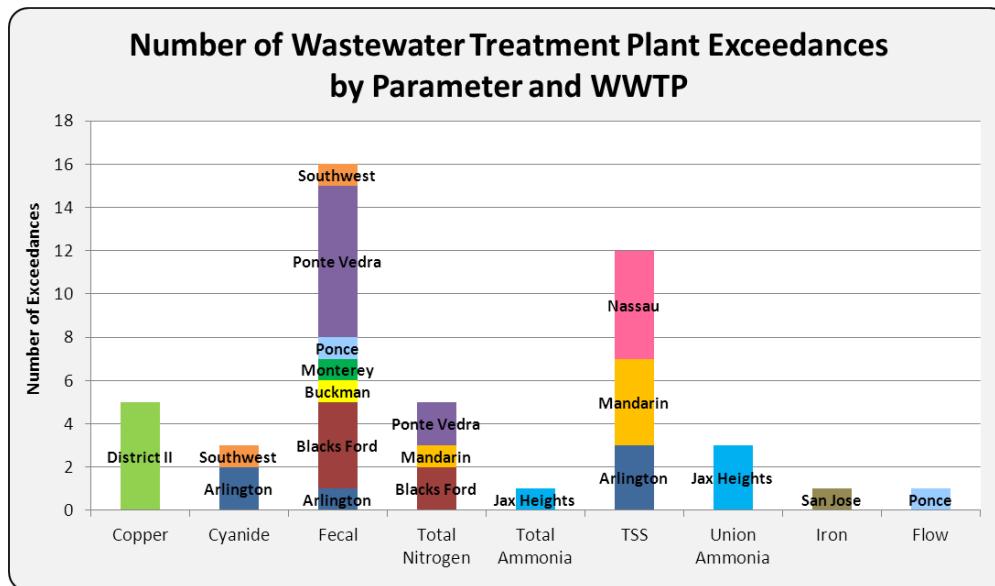
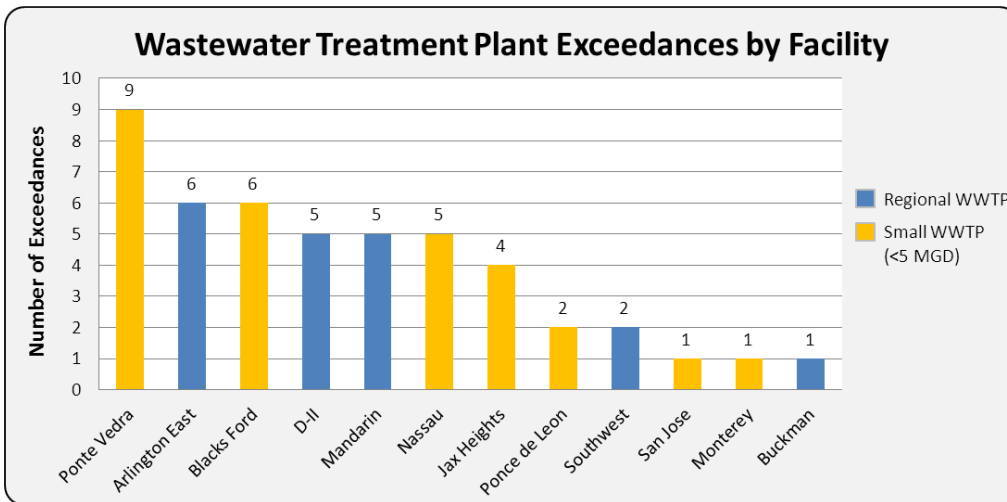


Wastewater Treatment Plant (WWTP) Compliance:

- ✓ The total number of WWTP permit exceedances for FY2011 was 47, compared to the FY2010 total of 46. JEA is required to sample and report over 51,000 analyses per year to the FDEP for WWTP permit compliance purposes. FY2011 performance of 47 permit exceedances out of the 51,000 opportunities represents only a 0.09% exceedance percentage.



- ✓ The 5 regional WWTPs (which account for over 86% of the wastewater treatment average daily flow) accounted for only 19 of the 47 exceedances (40%); the smaller WWTP's (<5 MGD) accounted for the remaining 28 exceedances (60%).
- ✓ 16 of the 47 total exceedances were for fecal coliform, and these occurred at seven of JEA's facilities as indicated on chart below. This number significantly exceeds historical averages for this parameter. 10 of the 16 fecal exceedances occurred in the last quarter of FY2011. A comprehensive investigation into the cause is underway.
- ✓ District II WWTP experienced 4 copper exceedances in FY2011. All the exceedances were in the first 5 months of the fiscal year and results after that period have remained in compliance. An investigation covering both pretreatment sources and plant operations did not reveal a root cause for the copper exceedances. During FY2011, the facility operated under a consent order incorporating an interim limit for copper, which will remain in place until the facility demonstrates consistent compliance with the previous copper limit.
- ✓ Buckman WWTP, JEA's largest plant, experienced only 1 exceedance in FY2011, for fecal coliform.
- ✓ 18 of the 47 exceedances (38%) occurred in the last two months of the fiscal year, August and September. As noted above, 10 of the 18 exceedances were for fecal coliform.
- ✓ No single facility had more than 9 exceedances in FY2011.
- ✓ The focus in FY2012 will be to identify and address the cause of the increased non-compliance rate that occurred in the last two months of the fiscal year.



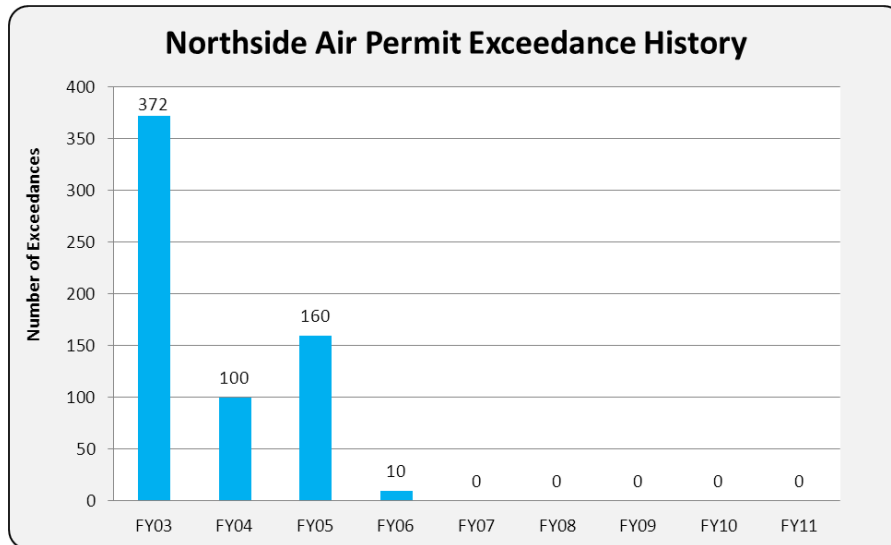
- ✓ JEA's aggregate nitrogen discharge in FY2011, which includes the loading from SJRPP, was 533 tons, well below the eventual limit for nitrogen. JEA's aggregate nutrient permit includes the aggregate total maximum daily load (TMDL) nitrogen limit for all of JEA's WWTPs and SJRPP. JEA's TMDL limit, effective in 2013, will be 720 tons per year of nitrogen.
- ✓ Environmental Services met with officials from the U.S. Fish & Wildlife Service (USFWS) regarding the manatee aggregation at the District II WWTP outfall. There is an apparent trend for animals to congregate at this outfall in the winter months, and in FY2011, three animals needed to be rescued and relocated due to cold stress. JEA is pursuing routing additional District II WWTP effluent to the SJRPP cooling tower basins during the winter months to seasonally eliminate discharge from the District II outfall as a way of discouraging these animals from congregating at the District II outfall. JEA also continues its manatee monitoring program during the winter months.

Oil Spill Remediation Costs:

- ✓ Remediation costs from transformer and oil spills decreased from \$103,000 in FY2010 to \$41,000 in FY2011. These costs were based on remediation expenses from 60 sites in FY2011 compared to 56 sites in FY2010. As is evident, oil spill remediation cleanup costs will fluctuate yearly depending on the number, size, and type (PCB, non PCB) of spill.

Air Compliance (Northside Generating Station):

- ✓ Northside Generating Station (NGS) continued to demonstrate excellent performance in the area of air emissions compliance in FY2011 with 0 permit exceedances. This year's performance is the fifth consecutive year that there have been no permit air exceedances at NGS.
- ✓ On April 11, 2011, an exemption from the requirement to obtain an air construction permit was issued by FDEP for NGS Units 1 & 2 authorizing the burning of approximately 12 tons per day (tpd) of biomass, in the form of wood chips and similar plant materials. On October 10, 2011, an additional exemption to burn up to approximately 67 tpd in both units was granted by the FDEP.

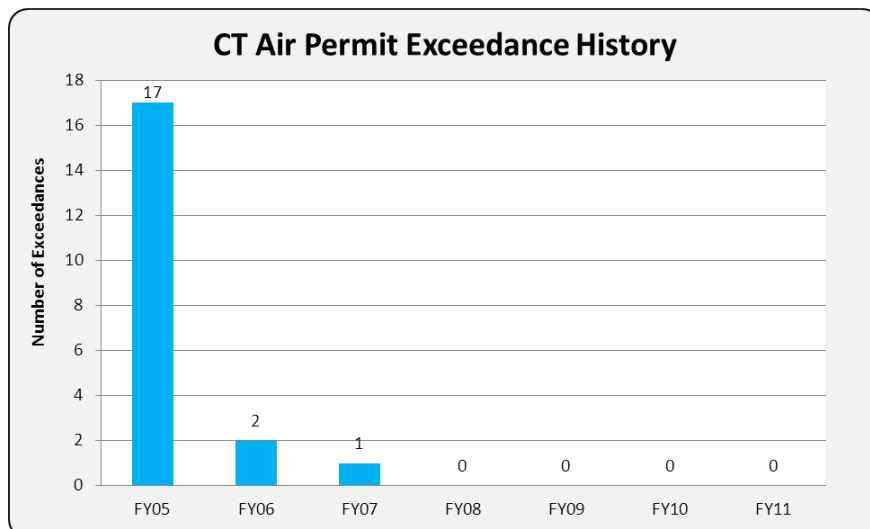


Air Compliance (SJRPP):

- ✓ SJRPP also continued its excellent environmental performance with no permit air exceedances. This year's performance is the 9th consecutive year that SJRPP has had no air permit exceedances.
- ✓ The SJRPP's excellent performance of air emissions control equipment such as, the Electrostatic Precipitator (ESP) for controlling particulate matter emissions, the Flue Gas Desulfurization System (FGDS) for controlling sulfur dioxide emissions, and the recent addition of the Selective Catalytic Reduction (SCR) for controlling nitrogen oxides emissions has positioned JEA and SJRPP very well to comply with anticipated more stringent air emission requirements.

Air Compliance (Combustion Turbines):

- ✓ The combustion turbines (CTs) continued to demonstrate excellent performance in the area of air emissions compliance in FY2011 with 0 permit exceedances for the 3rd consecutive year.
- ✓ This year's performance culminates the downward trend from a high of 17 exceedances in FY2005, to no permit exceedances in FY2008 through FY2011.
- ✓ On November 30, 2011, the final Title V Air Operating Permit for Greenland Energy Center was issued by the FDEP. The permit became effective on January 1, 2012.
- ✓ GEC experienced no air emissions permit compliance exceedances through start-up and throughout the operational phase in 2011.



Continuous Emission Monitors (CEMS) Performance:

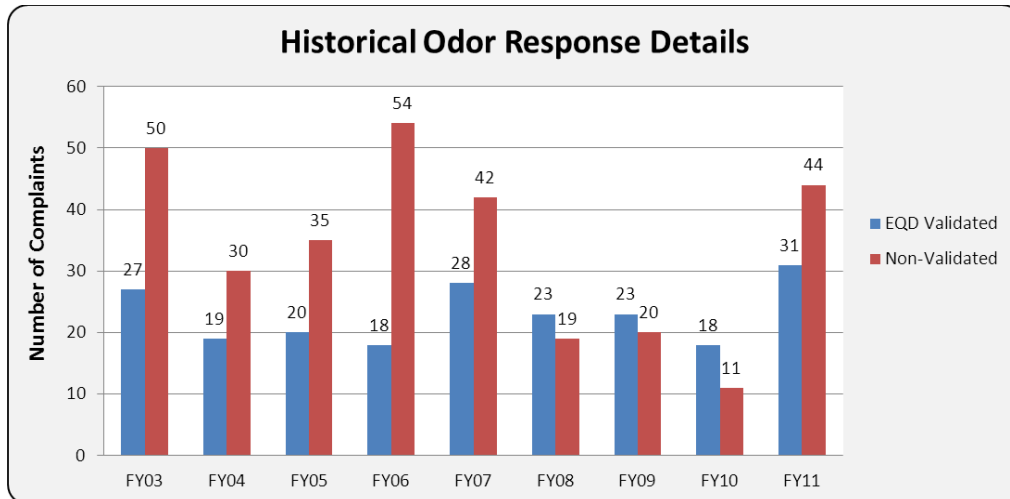
- ✓ The initial Greenhouse Gas report for air emissions was successfully compiled and submitted via EPA’s new electronic reporting tool (egret) on September 15, 2011.
- ✓ A CEMS project scope was developed for upgrading equipment that would be capable of meeting current and future regulatory requirements for entire generation fleet.
- ✓ Greenland Energy Center’s CEMS were successfully certified.
- ✓ CEMS training sessions continue to be conducted to ensure alignment between I&C and Environmental CEMS team.

SJRPP - Other:

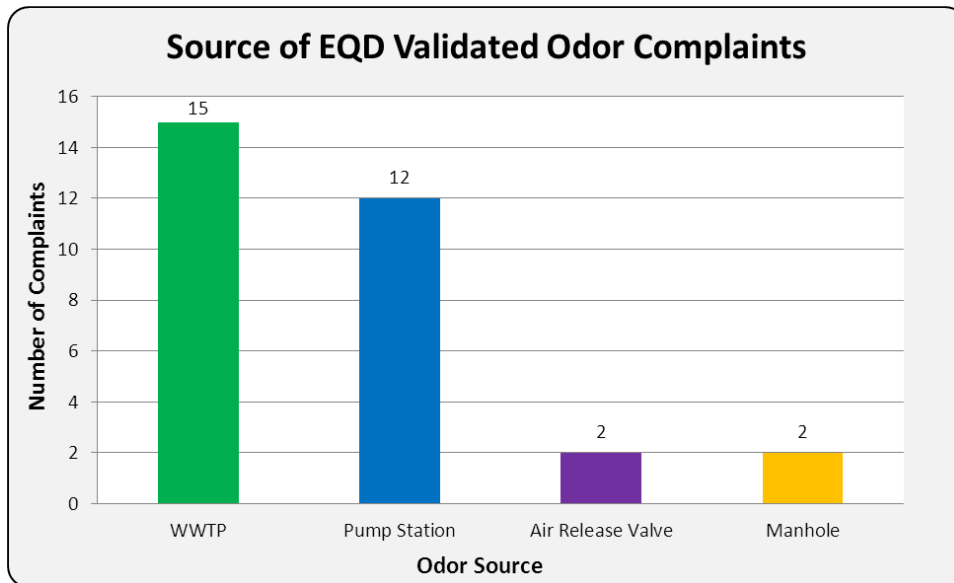
- ✓ SJRPP’s Byproduct Storage Area (BSA) Area II closure activities were completed.
- ✓ FDEP is updating the SJRPP Conditions of Certification in parallel to JEA’s request for modification to reduce groundwater collection and sampling.

Odor Issues:

- ✓ The total number of validated odor complaints for FY2011 was 31, compared to the FY2011 target of 20. The number of validated complaints in FY2011 was higher than the FY2010 total of 18 due to some odor issues at three facilities. There was one fine/penalty associated with odor issues during FY2011, due to an odor complaint at District II (\$3998).
- ✓ The number of non-validated complaints (non-confirmed source) during FY2011 was 13 compared to 11 during FY2010, an 18% increase.

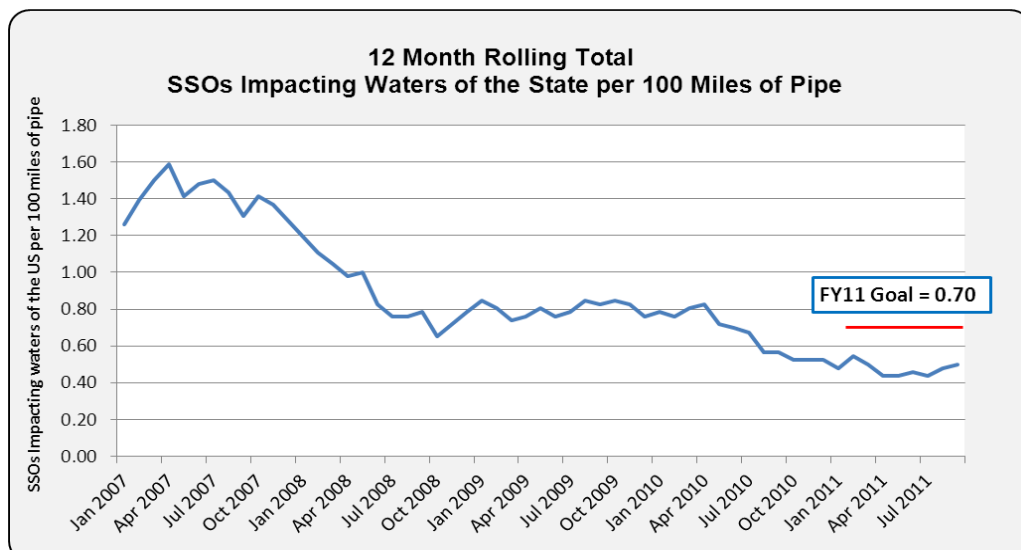
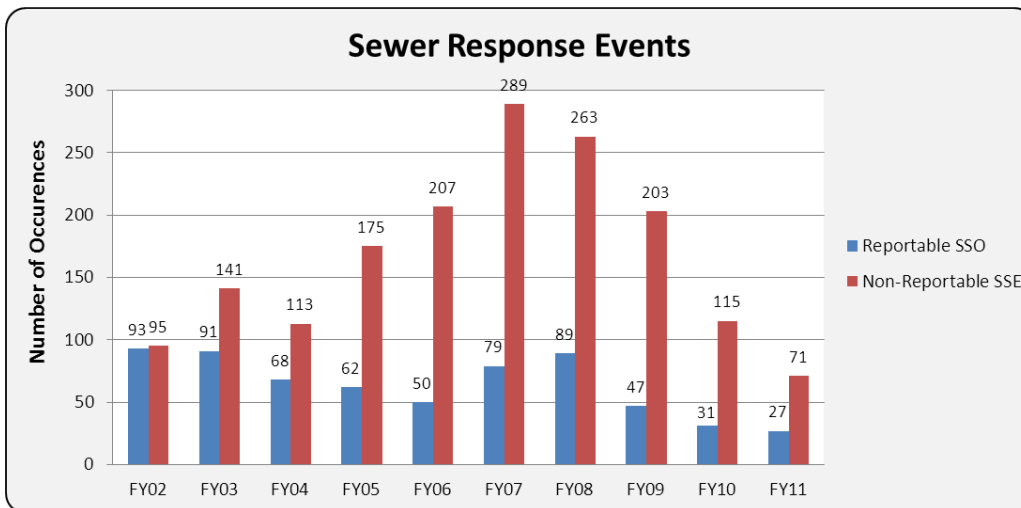


- ✓ Pump stations and manholes accounted for 39% and 6%, respectively, of the City of Jacksonville (COJ) Environmental Quality Division (EQD) validated odor complaints. There were 15 validated complaints from Wastewater Treatment Facilities.
- ✓ Nineteen of the 31 validated complaints were repeat complaints at 3 locations, accounting for 61% of the validated complaints. Four (4) were associated with the Bradley Road Pump Station, six (6) associated with the Mandarin WWTP and nine (9) associated with the District II Wastewater Treatment Facility. All of these repeat sites currently have odor control devices which continue to be optimized and monitored.
- ✓ JEA has increased monitoring of odor-sensitive locations throughout its service territory over the last year, and continued to respond to all complaints. JEA works closely with the complainant to identify the actual source of the odor (often not JEA), and then works to solve it as economically as possible within our scope of responsibility and influence. JEA currently operates over 100 separate odor control systems and monitors nearly 200 individual locations to verify the effectiveness of odor treatment efforts.

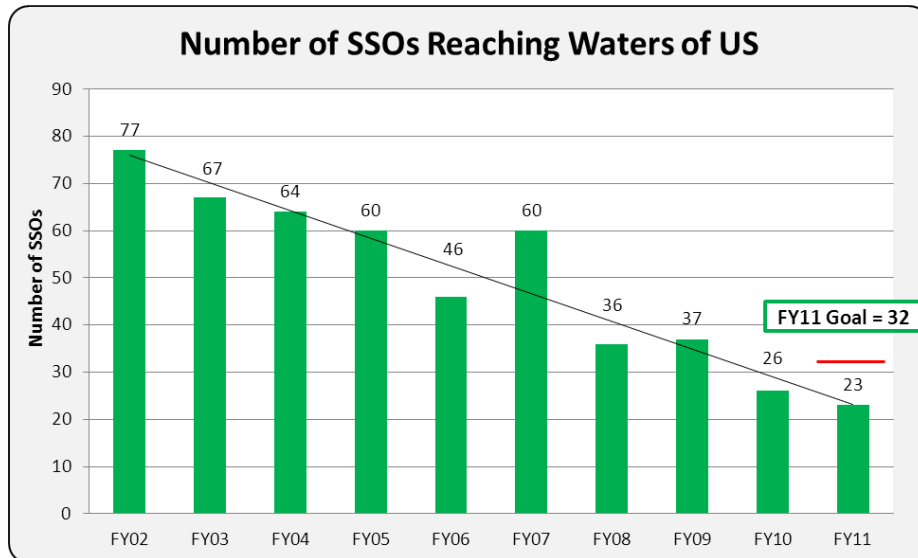


Reportable Sanitary Sewer Overflows (SSOs):

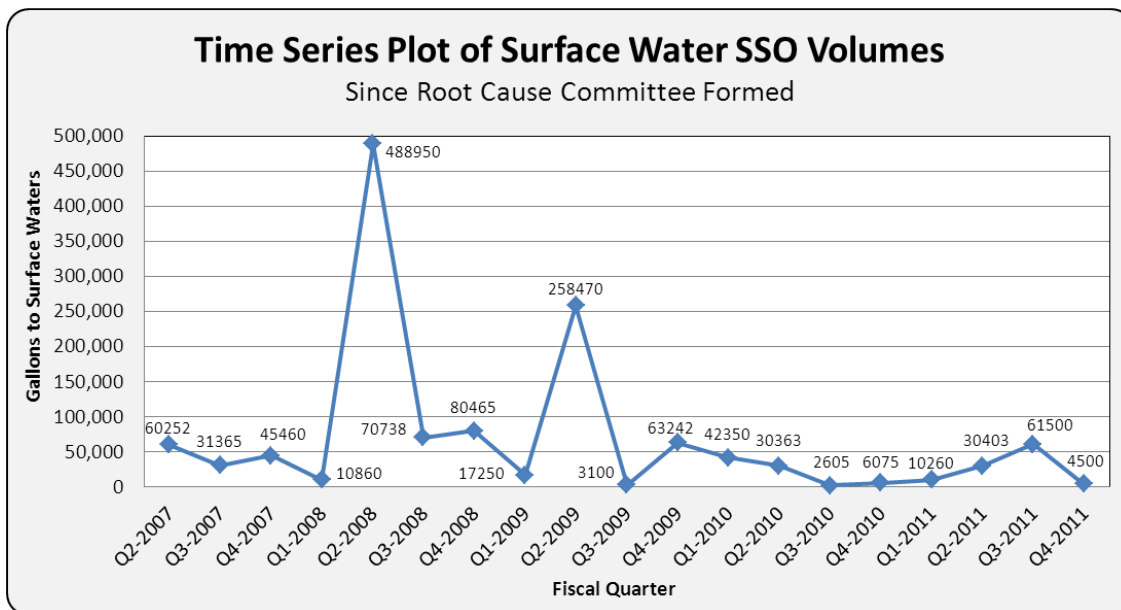
- ✓ Reportable SSOs include any event over 1,000 gallons of sewage in volume, any event that reaches waters of the state, OR any event where there is unrestricted public access. Sanitary Sewer Events (SSEs) are all other sewer spill events.
- ✓ A total of 27 reportable SSOs occurred in FY2011, which was well under the target of 32. This was an additional decrease from the FY2010 previous historical low total of 31!



- ✓ The FY2011 total of 27 reportable SSOs was the least of any year in the FY2002 to FY2011 period.
- ✓ Based on a 9-year period from FY2002, there has been a definite downward trend of the *number* and *volume* of reportable SSOs reaching waters of the State.
- ✓ In FY2011, a total of 23 reportable SSOs out of the 27 reportable SSOs impacted waters of the State, compared to 26 in FY2010. This total also represents a record low for the FY2002-FY2011 period.



- ✓ The volume discharged to waters of the State from SSOs in FY2011 was approximately 107,000 gallons. This was a 34% increase from the 80,000 gallons released to waters of the State in FY2010, but still well below historical averages.
- ✓ The graph below provides a time series plot of quarterly SSO volumes reaching surface waters.

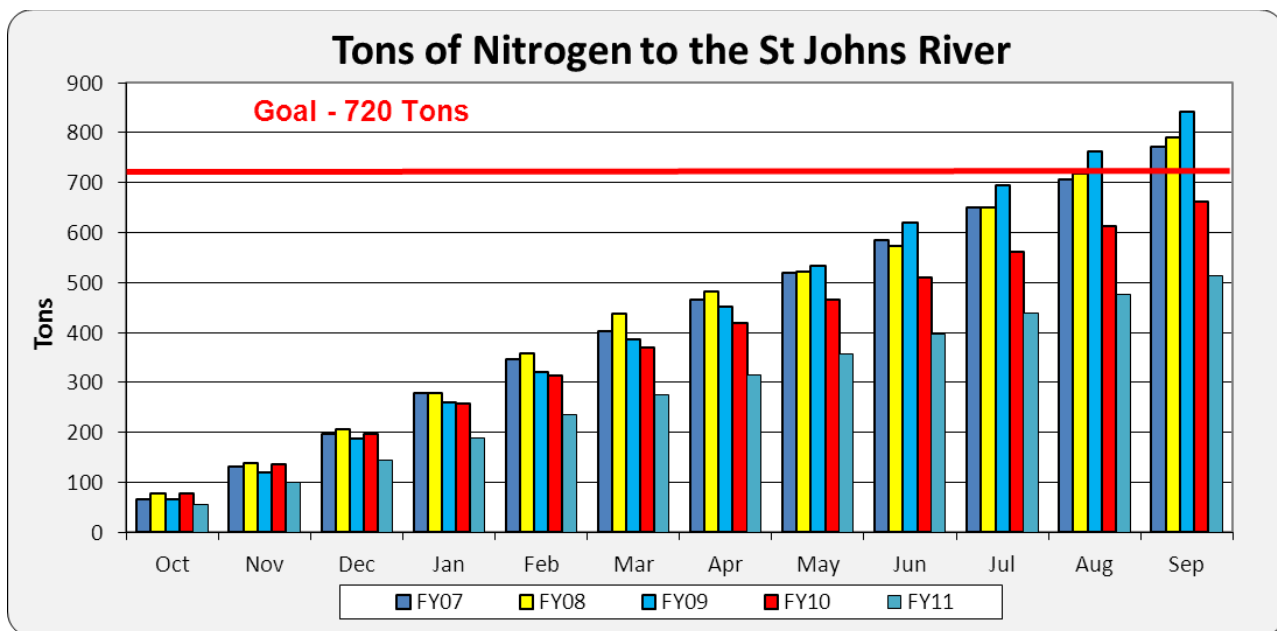


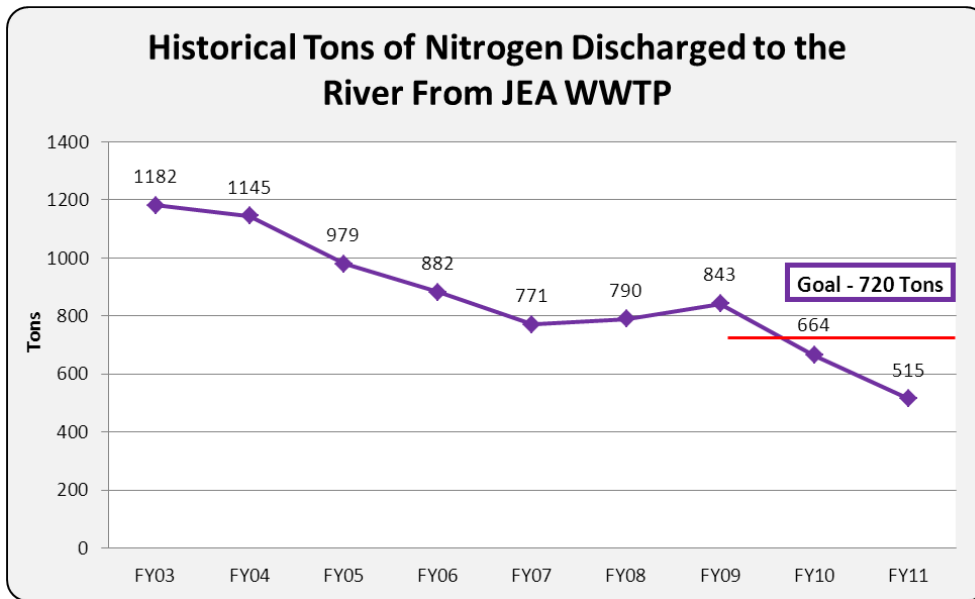
- ✓ There continues to be a corporate focus on the reduction of SSOs. An executive level led cross-functional team continues to meet on a monthly basis to review program implementation and results.
- ✓ Bi-weekly meetings continue to be held to review all SSOs and to identify the root cause of each event and to utilize such data to focus efforts for maximum benefit in reducing the number and volume of SSOs.
- ✓ JEA continues to effectively implement its Capacity, Management, Operations and Maintenance (CMOM) Program which includes the following key initiatives: routine cleaning and televising of flat pipe sections, pipe integrity testing, cast and ductile iron pipe rehabilitation, trenchless rehabilitation, air release valve (ARV) replacement, manhole monitoring, SCADA enhancements, and inflow and infiltration program.

- ✓ JEA continues to meet quarterly with FDEP to discuss JEA's SSO reduction program; SSO events, root causes, and corrective action taken; and applicable fines.
- ✓ In FY2010 JEA settled "Third-party" lawsuits filed by the Riverkeeper organization and the Public Trust Environmental Law Institute of Florida against JEA for SSOs that occurred over a multi-year period in the Buckman and Arlington East sewer service areas. As part of the terms of the settlement, in FY2011, JEA commissioned an independent review of its SSO reduction programs through an independent consultant engineer mutually agreed to by both parties. The final report will be issued in early 2012.

WWTP Nitrogen Discharge to St. Johns River:

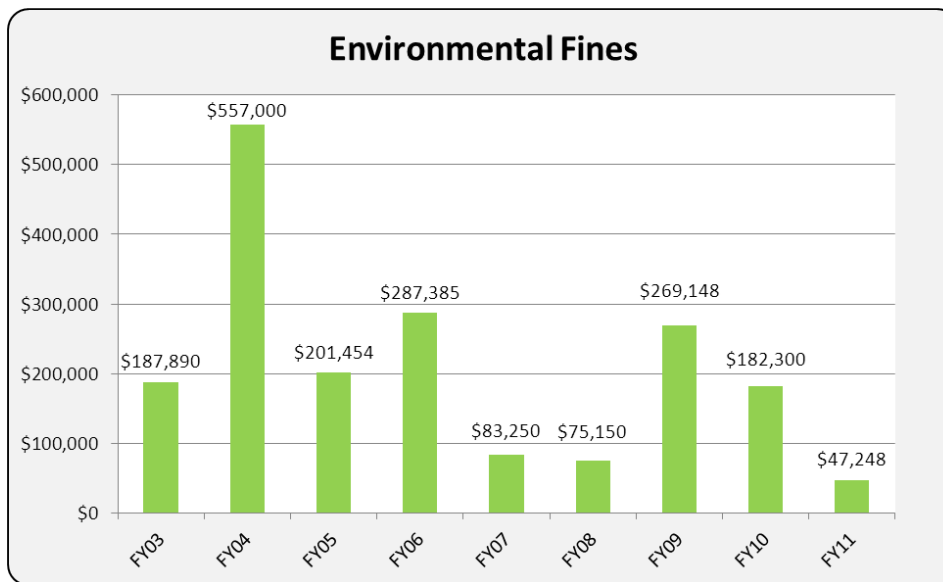
- ✓ JEA's aggregate nitrogen discharge in FY2011, which includes the loading from the SJRPP, was 533 tons, well below the eventual limit for nitrogen. JEA's aggregate nutrient permit includes the aggregate total maximum daily load (TMDL) nitrogen limit for all of JEA's WWTPs and the SJRPP. JEA's TMDL limit, effective in 2013, will be 720 tons per year of nitrogen. The trend in effluent nitrogen from the wastewater plants (excludes SJRPP) is shown in the figure below.
- ✓ JEA continues its outstanding overall trend of reductions of nitrogen to the St. John River. JEA's nitrogen load to the river represents a 67% reduction from the 1999 TMDL baseline loading from JEA facilities.
- ✓ In FY2012, JEA will initiate the treatment upgrades at Buckman WWTP which will ensure attainment of the 2013 TMDL limit into the future, accommodating growth and wide-varying weather conditions.
- ✓ EPA announced in January 2009, its intention to promulgate numeric nutrient criteria for Florida beginning in 2010 as part of a legal settlement agreement with environmental third parties. Freshwater criteria have now been promulgated by EPA but criteria for marine waters (JEA's focus) will not be finalized until 2012. The promulgated freshwater nutrient criteria are very stringent and would result in significant reductions to nitrogen and phosphorus discharges well below levels currently required for various parties by the existing Lower St. Johns River (LSJR) nutrient TMDL. The State of Florida FDEP has developed a state specific rule intended to replace EPA's rule. The FDEP rule is on track to be reviewed by EPA in the spring of 2012. The FDEP rule includes provisions that recognize certain existing nutrient standards, such as the lower St. Johns TMDL, and would retain them. Although that rule is for freshwater, it is believed the same principles would translate to marine/estuarine standards that will be contemplated by FDEP/EPA in 2012, which are what may affect JEA's facilities. If the current TMDL is not approved by EPA, the criteria could require a substantial investment in additional facility upgrades beyond those planned for the TMDL effort. EPA's criteria and approach continue to be the subject of a legal challenge as JEA and numerous other stakeholder organizations are litigating against EPA on this issue.





Environmental Fines:

- ✓ FY2011 environmental fines were \$47,248, a decrease from the FY2010 fine amount of \$176,300.



- ✓ San Jose WWTP system was fined \$20,000 for a broken outfall pipe. Under the terms of the consent order, JEA will expedite phasing out of San Jose by March 31, 2013, in lieu of an expensive repair of the broken outfall line.
- ✓ Other fines associated with events that occurred in FY2011 include a NPDES effluent violation for Copper at District 2 WWTP (\$17,300), failure to obtain construction permits for a low pressure system on Ardoon Street (\$6,400), a wastewater transmission system at Kernan and Beach (\$6,400), and failure to obtain a permit prior to replacing a pressure tank with a bladder tank at A1A WTP (\$2,550).

Renewable & Clean Power:

- ✓ In June 2011, JEA commenced co-firing wood chips as a biomass energy source in Northside Generating Station Units 1 & 2. This energy source consists of wood chips from JEA tree trimming activities. In addition to co-firing of the JEA wood chips as an alternate fuel source, the wood chips are normally transported for off-site disposal at a cost, which is reduced by utilization in the NGS boilers.
- ✓ JEA extended the Memorandum of Understanding for two years between the City of Jacksonville to continue to receive landfill gas from the North and Girvin landfills.
- ✓ JEA amended the contract with Landfill Energy Systems (LES) for additional energy from the Trail Ridge Landfill.
- ✓ JEA finalized and implemented the Tier 3 Net Metering Policy for customer-owned renewable generation systems greater than 100 kW up to 2 MW.

JEA Production Facilities Environmental Compliance Update Final- FY11

Permit Exceedances (Water/Wastewater)	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Target FY2011
Total	74	51	96	144	119	62	67	31	45	175	
Water Plants	9	5	6	5	5	11	10	0	36	126	
Power Plants	7	3	2	9	15	1	5	1	5	2	10
Wastewater Plants	58	43	88	130	99	50	52	27	49	47	36

Air Exceedances (NGS/SJRPP/CTS)	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Target FY2011
NGS Exceedances (NS1, NS2, NS3)	222	372	100	160	10	0	0	0	0	0	3

NS1 Total	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
SO2 24 hour exceedances	31	47	19	15	6	0	0	0	0	0
SO2 30 day exceedances	47	143	55	61	2	0	0	0	0	0
NOX 30 day exceedances	0	0	0	0	0	0	0	0	0	0
CO 24 hour exceedances	3	16	1	0	0	0	0	0	0	0
Opacity exceedances	0	3	0	0	0	0	0	0	0	0

NS2 Total	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
SO2 24 hour exceedances	46	32	18	21	2	0	0	0	0	0
SO2 30 day exceedances	94	100	4	62	0	0	0	0	0	0
NOX 30 day exceedances	0	22	0	0	0	0	0	0	0	0
CO 24 hour exceedances	1	5	3	0	0	0	0	0	0	0
Opacity exceedances	0	4	0	1	0	0	0	0	0	0

NS3 Total	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
SO2 24 hour exceedances	No data	0	0	0	0	0	0	0	0	0
NOX 30 day exceedances	No data	0	0	0	0	0	0	0	0	0

CT Exceedances (Total)	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Target FY2011
Total	No data	No data	No data	17	2	1	0	0	0	0	2
KCT7	No data	No data	No data	0	0	0	0	0	0	0	
BCT1	No data	No data	No data	0	1	0	0	0	0	0	
BCC2	No data	No data	No data	11	1	0	0	0	0	0	
BCC3	No data	No data	No data	6	0	1	0	0	0	0	
GEC1	No data	No data	No data	No data	No data	No data	No data	No data	No data	0	
GEC2	No data	No data	No data	No data	No data	No data	No data	No data	No data	0	

SJRPP Exceedances	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Target FY2011
Total		1	0	0	0	0	0	0	0	0	0
SO2 2 hour exceedances		1	0	0	0	0	0	0	0	0	
SO2 30 day exceedances		0	0	0	0	0	0	0	0	0	
NOX 30 day exceedances		0	0	0	0	0	0	0	0	0	
NOX annual exceedances		0	0	0	0	0	0	0	0	0	
Opacity exceedances		0	0	0	0	0	0	0	0	0	

Incident Response Events	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Target FY2011
Total	52	27	19	20	18	28	23	23	18	31	20
Validated Odor Complaints	52	27	19	20	18	28	23	23	18	31	20
Verified Noise Complaints	No data	0	0	1	0	0	0	0	0	0	4
Noise Citations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	
Reportable SSOs	93	91	68	62	50	79	89	47	31	27	36
SSOs to Waters of the State	N/A	N/A	N/A	N/A	47	60	36	37	26	23	32
SSOs to Waters of the State Per 100 Miles of Pipe	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.880	0.620	0.548	0.7
Reportable Events (Oil, Transformer, Chemical, Re-claimed water, etc.)	8	25	23	13	10	38	31	26	27	25	
Security Breach Reportables	0	16	15	8	1	15	2	0	4	1	

Agency Inspection Overview	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Agency Inspections Conducted	50	54	52	36	148	63	136	142	111	108
Deficiencies Found	No data	32	22	11	30	13	20	23	27	10

Incident Overview	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Cost of fines	\$30,250	\$187,890	\$557,000	\$201,454	\$287,385	\$83,250	\$75,150	\$269,148	\$176,300	\$47,248
Oil Spill Remediation Costs	No data	No data	\$51,558	\$32,230	\$38,399	\$66,591	\$636,111	\$287,242	\$103,103	\$40,966

Env Stewardship	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Target FY2011
WRF Nitrogen Discharge(tons)		1182	1145	979	884	771	790	778	664	515	720

CEMS Metrics

1)CEMS Instrument Availability- Goal is to be > 95%

Unit #	Part 75				Part 60 & Permit			
	CO2/O2	NOx	SO2	Flow	NOx	SO2	CO	Opac
NGS 1A	98.70	98.60	98.60	98.80	99.39	99.34	99.43	99.77
NGS 2A	99.10	99.10	99.10	99.90	99.91	99.91	98.82	99.65
NGS 3	98.70	97.90	97.90	99.60	99.68	99.68	N/A	99.89
BBGS 1	98.80	98.80	N/A	N/A	100.00	N/A	N/A	N/A
BBCC 2	99.90	99.90	N/A	N/A	100.00	N/A	99.94	N/A
BBCC 3	98.80	99.70	N/A	N/A	100.00	N/A	99.80	N/A
GEC 1	97.90	97.90	N/A	N/A	100.00	N/A	99.16	N/A
GEC 2	98.50	98.50	N/A	N/A	100.00	N/A	100.00	N/A
KCT 7	97.40	97.30	N/A	N/A	100.00	N/A	N/A	N/A
KCT 8	98.90	98.70	N/A	N/A	99.03	N/A	N/A	N/A
SJRPP 1	100.00	99.58	99.58	99.58	99.58	99.58	99.58	98.40
SJRPP 2	98.47	98.47	98.47	100.00	98.61	98.61	98.61	99.40

2) CEMS BIAS- Desired bias = 1.000

Units in over-reporting emissions(This is only a process indicator to prevent over reporting)

Unit Name	RATA Date	NOX		SOX		Flow	
		Bias	RATA Date	Bias	RATA Date	Bias	
NGS1A	5/4/2011	1.000	5/4/2011	1.000	5/24/2011	1.034	
NGS2A	1/6/2011	1.052	1/6/2011	1.009	3/11/2011	1.000	
NGS3	9/7/2011	1.000	9/7/2011	1.000	9/8/2011	1.026	
BCT1	7/27/2011	1.111	N/A	N/A	NA	N/A	
BCC2	7/26/2011	1.111	N/A	N/A	NA	N/A	
BCC3	7/14/2011	1.111	N/A	N/A	NA	N/A	
KCT7	7/13/2011	1.072	N/A	N/A	NA	N/A	
KCT8	7/12/2011	1.095	N/A	N/A	NA	N/A	
GEC1	7/6/2011	1.100	N/A	N/A	NA	N/A	
GEC2	7/7/2011	1.080	N/A	N/A	NA	N/A	
SJRPP 1	11/4/2010	1.000	11/4/2010	1.000	11/4/2010	1.000	
SJRPP 2	11/3/2010	1.000	11/3/2010	1.000	11/3/2010	1.000	

FY2012 ENVIRONMENTAL FOCUS

“Back to Basics” Compliance Initiative

Environmental Services will continue to initiate the next phase of its “Back to Basics” Compliance Initiative. This initiative which began in FY2009, involves a fundamental review, enhancement and formalization of the environmental management system within JEA. A comprehensive review of all environmental permits and programs was conducted to ensure accountability and compliance with all existing requirements. The complexity of current environmental regulations of the utility industry, along with the continued promulgation of new rules, continues to make environmental compliance increasingly challenging for our business. The “Back to Basics” Compliance Initiative’s objective is to make certain that JEA is in the best position to achieve 100% environmental compliance of our operations with all regulations.

In FY2012, the “Back to Basics” Compliance Initiative will continue to focus on documenting all permit and environmental program requirements. This effort will not only support sustainable environmental performance, but also facilitate knowledge transfer. This effort is even more critical during these times of high employee retirements. This formalization and documentation will help establish a consistent set of processes and practices that will enable JEA to continue to reduce our environmental impacts and improve our environmental performance. Internal environmental program assessments will also continue as part of this program.

Continued Reduction of Sanitary Sewer Overflows (SSOs)

Corporate efforts will continue to focus on initiatives and projects associated with the reduction of SSOs, especially those that have the potential to reach the waters of the State. JEA’s Capacity, Management, Operations and Maintenance (CMOM) Program is being implemented to ensure that Best Operating Practices are being utilized for the reduction of SSOs. In FY2012, JEA will continue to implement and enhance our CMOM Program, utilizing root cause data and system analysis to optimize, prioritize and allocate resources within the programs directed towards the reduction of SSOs. In addition, an independent review of the program will be completed and recommendations for improvements will be provided and incorporated into the CMOM program, as appropriate.

St. Johns River Water Management District (SJRWMD) and Suwannee River Water Management District (SRWMD) Water Supply Planning Process

As a member of the Northeast Florida Utility Coordination Group, JEA continues to be actively engaged with the SJRWMD and SRWMD in evaluating the technical questions needed to establish the sustainable limits of withdrawals from the Floridan Aquifer. JEA also plans to monitor the SJRWMD and the SRWMD Planning Processes, including their evaluation and development of new or revised minimum flow and levels (mfl) and the development of prevention and recovery strategies, and the development of a North Florida – Southeast Georgia Regional Groundwater Flow Module.

Climate Change and Renewable Energy Program Strategy

Although JEA does not expect any regulations in FY2012 in the areas of climate changes and renewable energy standards, we will continue to monitor and influence climate change regulatory and legislation decision making at the federal level. In addition, JEA will continue to assess strategies for managing CO₂ emissions and allowances requirements based on any proposed regulations. JEA’s strategy includes continuing to assess feasibility and cost effectiveness of participation in potential nuclear projects; continuing to review potential expansion of renewable energy sources; continuing to develop and implement Demand Side Management (DSM) and conservation programs; and to analyze plant CO₂ reduction options (i.e. dispatching scenarios and increased use of gas) and unit efficiency improvements.

Environmental Rulemaking and Legislative Issues

JEA’s Environmental Services along with the Public Affairs group will continue to monitor and influence many proposed regulatory and legislative environmental issues. A formalized process linked to JEA’s Enterprise Risk Management process will continue to be utilized to assess and determine the risk implications of all new legislation and rulemaking on our utility operations, and to determine our mitigation strategies and options/costs for compliance. Some of the more prominent issues of FY2012 include Numeric Nutrient Criteria, Greenhouse Gas rulemaking, coal combustion byproduct designation, revisions to coal plant effluent discharge standards, a State mercury air rule, State mercury TMDL, revisions to CAMR and CAIR, Ozone Nonattainment, Maximum Achievable Control Technology (MACT) for hazardous air pollutants including mercury, and 316(b) cooling water intake structure rule revisions.

FY2011 JEA ENVIRONMENTAL ACCOMPLISHMENTS

- Health of the St. Johns River: Protecting a valuable community asset and managing our customers' wastewater
 - ✓ JEA has reduced the amount of nitrogen discharged into the St. Johns River by over 60 percent between 2000 and 2011; to date, nitrogen has been reduced from 1,400 tons per year in 2000 to approximately 515 tons per year in 2011 - well below JEA's permitted TMDL obligation of 720 tons per year, which it is not required to achieve until 2013.
 - ✓ Increased usage of reclaimed water from 11.3 MGD in FY2010 to 13.5 MGD in FY2011
 - ✓ Continued focus on SSO reduction programs; reportable SSOs reaching Waters of the State for FY2011 were at an all-time record low of 23, well below the goal of 32
 - ✓ Industrial Pre-treatment (IP) program continued to effectively regulate industrial users to reduce IP violations to a record low
 - ✓ Initiated engineering and design for the upgrade to improve treatment at the Buckman Wastewater Treatment Plant
 - ✓ Received draft NPDES Permit Renewal for Northside Generating Station (NGS) and St. Johns River Power Park (SJRPP) which was submitted in August, 2010
- Water Resource Planning
 - ✓ On May 10, 2011, SJRWMD Governing Board approved issuance of JEA's Consumptive Use Permit (CUP) after a lengthy 3 ½ year permitting process; CUP allows JEA to withdraw water from the Floridan aquifer in order to supply water to our customers for the next 20 years
 - ✓ Initiated efforts to communicate CUP permit requirements and accountabilities within JEA to ensure compliance
 - ✓ Continued to lead the North Florida Utility Coordinating Group to collectively participate and ensure sound science is utilized by the SJRWMD and SRWMD in water policy, and the development of minimum flows and levels (MFLs) and prevention and recovery strategies
 - ✓ Continued design and engineering on North to South grid water transfer project which is part of Total Water Management Plan to mitigate salt water intrusion issues on the South grid
 - ✓ The Water Treatment Plant pre-inspection program is helping ensure operating plant compliance with FDEP regulations
 - ✓ Initiated a proactive review of results and a resampling process for water quality data that are suspect
 - ✓ Renewed NGS 20-year CUP as part of the 5-year (now 10-year) CUP compliance report submittal.
 - ✓ Revised the Water Quality Complaint procedure
 - ✓ Obtained FDEP permission to reduce weekend staffing
- Air Emissions
 - ✓ Perfect air emission compliance at NGS, SJRPP, BBGS and KGS – zero air emission exceedances
 - ✓ Greenland Energy Center construction completed, providing JEA additional natural gas-fired generation; all construction, start-up, and operation activities were in 100% compliance with all environmental permits and requirements
 - ✓ Developed and implemented JEA's Net Metering Policy to include customer-owned renewable generation systems greater than 100 kW and less than or equal to 2 MW
 - ✓ Climate Change risk mitigation team continued to address risks associated with CO₂ and renewable potential regulations
 - ✓ Received authorization from FDEP for NGS Units 1&2 to begin co-firing JEA tree-trimming material at 12 tons/day
 - ✓ As a result of Solar Electric Power Association's (SEPA) 2010 utility solar rankings, JEA was awarded "SEPA Top 10 Utility Solar Rankings 2010 Annual Solar Watts Per Customer #7"
 - ✓ JEA served as Board Co-chair for North Florida Clean Cities
- Operational Excellence
 - ✓ Outstanding overall environmental performance of utility
 - ✓ Secured NGS By-products Storage Area (BSA) Permit renewal; secured approval of SJRPP Solid Waste BSA Area II Closure
 - ✓ Secured the revised Beneficial Use Designation Agreement letter for the use of EZBase and allowing for the uncovered uses which had been suspended for a year

- ✓ Continued to track and influence regulations and evaluate impact of compliance on JEA; held workshop on potential impacts of proposed 316b cooling water intake proposed rule
- ✓ Obtained FDEP permission to reduce weekend staffing at water treatment plants
- ✓ Successful Florida Department of Health laboratory audit conducted in August, 2011
- ✓ Implemented Phase III of “Back to Basics” Environmental Compliance Initiative to formalize a consistent, efficient and systematic approach to environmental management systems; addresses the complexity of current/future environmental regulations and ensures that JEA is in the best position for 100% environmental compliance
- ✓ Streamlined organization by implementing organizational changes associated with workforce readiness planning
- ✓ Served as Co-chair of the Water/Sewer Capital Core Team; in FY 2010, the Water/Sewer Capital Budget actual expenditures were \$91.5 million, significantly lower than the budget of \$108.7 million; in addition, the Capital Core Team has established a 5 year capital plan that will position JEA to transition to pay-go

JEA ENVIRONMENTAL CHALLENGES MOVING FORWARD

- Increased Environmental Constraints on Electric Generation
 - ✓ A significant number of environmental initiatives are being implemented and proposed by EPA mandating more stringent limits and requirements on air emissions, wastewater discharges, cooling water intake design, and management of byproducts which could significantly impact the cost of future generation.
 - ✓ JEA must continue to assess the potential impacts of these new and proposed regulations on the operation of the existing JEA generating fleet, along with the implications on decisions for future generation planning.
 - ✓ Since nearly 100% of JEA’s electric generation produces carbon dioxide, the prospect of Climate Change legislation could be very costly to JEA’s customers. JEA must continue to monitor legislative efforts in this area, continue to address its carbon intensity, and evaluate opportunities to increase its amount of renewable energy resources.
- Water Resource Management
 - ✓ JEA is fortunate to have access to the Floridan Aquifer, a deep groundwater source of clean water which supplies 100% of our customers’ drinking water. However, portions of our aquifer are stressed, particularly in our southeast service territory, which are being addressed.
 - ✓ Water resource impacts related to public water supply withdrawals have become a major focus of the SJRWMD and the SRWMD with respect to water supply planning and MFL recovery/prevention strategies.
 - ✓ As part of our commitment to providing customers with a long-term, sustainable water supply and to ensure compliance with our CUP, JEA will continue to implement an integrated water and wastewater resource plan that includes conservation initiatives, a reclaimed water program, and North to South grid water transfer to reduce impacts to the southeastern portion of the aquifer.
- Health of the St. Johns River
 - ✓ The St. Johns River is an extremely important natural resource to the communities of Northeast Florida. JEA is committed to addressing water quality issues in the lower St. Johns River.
 - ✓ JEA will continue to advocate for EPA to adopt the site specific scientific-based numeric nutrient criteria incorporated in the Lower St. Johns River TMDL, and oppose the generalized criteria in EPA’s Numeric Nutrient Criteria rules.
 - ✓ JEA must continue its corporate focus on programs/initiatives targeted at reducing SSO discharges to waters of the state, and on the reduction of wastewater treatment plant permit exceedances.
- Workforce Planning
 - ✓ Over 50% of the Environmental Services workforce is eligible to retire in the next 5 years.
 - ✓ Continued need to focus on knowledge transfer and documentation/formalization of environmental programs/permit requirements to sustain exceptional corporate environmental compliance; this is an objective of the “Back to Basics” Environmental Compliance Initiative currently being implemented.