Alexandria/Arlington
Resource Recovery Facility

First Quarter 2013
Summary Operating Report

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Definition of Abbreviations & Acronyms

Abbreviation/Acronym	Definition
APC	Air Pollution Control
Apr	April
Aug	August
Avg	Average
Btu	British thermal unit
CAAI	Covanta Alexandria Arlington, Inc.
CEMS	Continuous Emissions Monitoring System
CO	Carbon Monoxide
Dec	December
Feb	February
FY	Fiscal Year
gal	Gallon
GAT	Guaranteed Annual Tonnage
HCl	Hydrochloric (Hydrogen Chlorides)
HDR	HDR Engineering Inc
ID	Induced Draft
Jan	January
Jul	July
Jun	June
klbs	Kilo-pounds (1,000 lbs)
kWhr	Kilowatt hours (1,000 watt-hours)
lbs	Pounds
LOA	Letter of Agreement
Mar	March
Max	Maximum
May	May
Min	Minimum
MSW	Municipal Solid Waste
MWhr	Megawatt hours
No	Number
NOV	Notice of Violation
Nov	November
NO_x	Nitrogen Oxide
Oct	October
OSHA	Occupational Safety and Health Administration
PDS	Potomac Disposal Services
ppm	Parts per million
ppmdv	Parts per million dry volume
PSD	Prevention of Significant Deterioration
Q1	First Quarter
Q2	Second Quarter
Q3	Third Quarter
Q4	Fourth Quarter
RE	Reportable Exempt
RNE	Reportable Non-Exempt
SDA	Spray Dryer Absorber
Sep	September
SO_2	Sulfur Dioxide
TCLP	Toxicity Characteristic Leaching Procedure
VADEQ	Virginia Department of Environmental Quality
WL	Warning Letter
yr	Year
YTD	Year to date

Alexandria/Arlington Waste-to-Energy Facility
First Quarter 2013 Summary Operating Report

1.0 Purpose of Report

HDR Engineering, Inc. (HDR) was given authorization by the Trustees to conduct bi-monthly inspections and provide quarterly monitoring reports regarding the operation and maintenance of the Alexandria/Arlington Waste-to-Energy Facility (Facility) for the 2012 calendar year. This report is prepared for the first quarter of the 2013 fiscal year and summarizes Facility operations between July 1, 2012 and September 30, 2012. This report identifies the fiscal year beginning on July 1, 2012, as FY13, and the quarter beginning on July 1, 2012 as Q1FY13.

This report is based upon the experience HDR has in the waste-to-energy industry, upon site observation visits and previous reports provided by HDR, and upon data provided by Covanta Alexandria / Arlington, Inc. (CAAI), the Facility operator.

2.0 Executive Summary

CAAI operated the Facility in an acceptable manner and in accordance with established waste-to-energy industry practices during Q1FY13. The operation of the Facility, maintenance, safety, and overall cleanliness continue to be above average. Environmental performance was good with one (1) reportable environmental excursion throughout the quarter. An explanation of this event is contained in Section 6.0 of this report.

During Q1FY13, the Facility experienced six (6) instances of unscheduled downtime for the boilers, and no unscheduled downtime for the turbine generators. A detailed listing of unit downtime is provided in Section 5.1 of this report.

Average waste processed during the quarter was 931 tons per day, or 96% of nominal facility capacity. Waste deliveries averaged 941 tons per day, which is 1.1% higher than the burn rate. The capacity utilization of 96% compares very favorably to industry averages, which are generally in the 88% to 92% range.

Performance trends for various measurements are presented in Section 4. In general, the Facility continues to demonstrate reasonable consistency in month to month performance throughout the most recent three year period tracked for detailed comparisons.

During the quarter, MSW processed decreased 8.0% from the corresponding quarter in FY12; steam production decreased 5.0%, and electricity generated (gross) decreased 5.1% from the corresponding quarter in FY12. The decrease in steam production and electrical generation during Q1FY13 is attributable to 245.7 more hours of downtime experienced by the boilers, and 92.7 more hours of downtime experienced by the turbine generators, as compared to the downtime (scheduled, unscheduled, and standby) experienced in the corresponding quarter of FY12.

3.0 Facility Inspection and Records Review

In July and September 2012, HDR met with the Facility management and other plant personnel to discuss Facility operations and maintenance, acquire Facility data and reports, perform an independent visual inspection of the operating Facility, photograph areas of interest, and perform a review of recent Facility activity. These visits were coordinated with the scheduled Trustees' meetings. At the time of the visits, HDR reviewed CAAI records, discussed performance issues with CAAI staff, and provided a monthly report. HDR maintains a running tabulation of the status of corrective actions and plant performance trends. CAAI provides the following documents for each month:

- Facility Monthly Operating Reports
- Monthly Continuous Emissions Monitoring System (CEMS) Reports

Table 1 summarizes maintenance, repair, and plant condition issues reported during this and prior audit reporting periods. An "A" indicates an issue of the highest priority and worthy of immediate attention. Such items are usually safety or operability issues. A "B" indicates that the issue needs to be dealt with as quickly as possible, but is not urgent. These items will usually result in a process improvement or will help avoid future "urgent" issues. A "C" indicates that the issue should be dealt with at the earliest convenience, but is not a priority issue. This category might include issues related to aesthetics, non-urgent maintenance, or housekeeping improvements which are not safety related.

Table 1: Summary of Audit Report Deficiencies

*A is highest priority & demands immediate attention: B needs attention, but is not urgent; C can be addressed at earliest opportunity & is not urgent.

Item No.	Audit Report Deficiencies	Issue Reported	Priority *	Resolution/Status	Date Resolved	Open / Closed
1	Pothole at tipping floor truck entrance. Note further deterioration observed during the June 2011 inspection.	February 2010	C	CAAI reports repairs were made in September 2012; subject to HDR verification		Open
2	Spider Cracks & Pothole at Ash Alley Truck entrance	February 2010	C	HDR observed that a temporary repair had been made during the October 2010 inspection. CAAI reports that permanent repairs will be made during the cold iron outage, which is scheduled for 2012.		Open
3	Spider cracking at scale entry area	July 2010	C	Repair		Open
4	Spalling concrete at municipal scale platform. Note further deterioration observed during the June 2011 inspection.	July 2010	C	Repair		Open
5	Selected timbers on cooling tower basin need replacement	October 2010	C	Inspect/Replace timbers as needed. CAAI reports replacement of timbers were completed in September 2012; subject to HDR verification		Open
6	Steam Leak at Steam Coil Air Heater No. 2	July 2012	B	Repair leak	September 2012	Closed
7	Tipping Floor siding damaged	July 2012	C	Repair siding		Open
8	Tipping floor lighting needs improvement since installation of entrance roll-up door	July 2012	A	Add lighting or skylights. CAAI reports that it plans to install skylights to improve lighting conditions.		Open
9	Pothole at truck entry roadway	May 2012	C	Repair		Open

4.0 Facility Operations

Monthly operating data provided by CAAI indicates that 85,696 tons of MSW were processed during Q1FY13, and a total 86,591 tons of MSW including 242 tons of Special Handling Waste were received. Total ash production during the quarter was 17,970 tons, which represents 21.0% of the waste processed. The average uncorrected steam production rate for Q1FY13 was 3.0 $tons_{steam}/ton_{waste}$; 3.2% more than the corresponding quarter in FY12.

Chart 1: Tons of Waste Processed

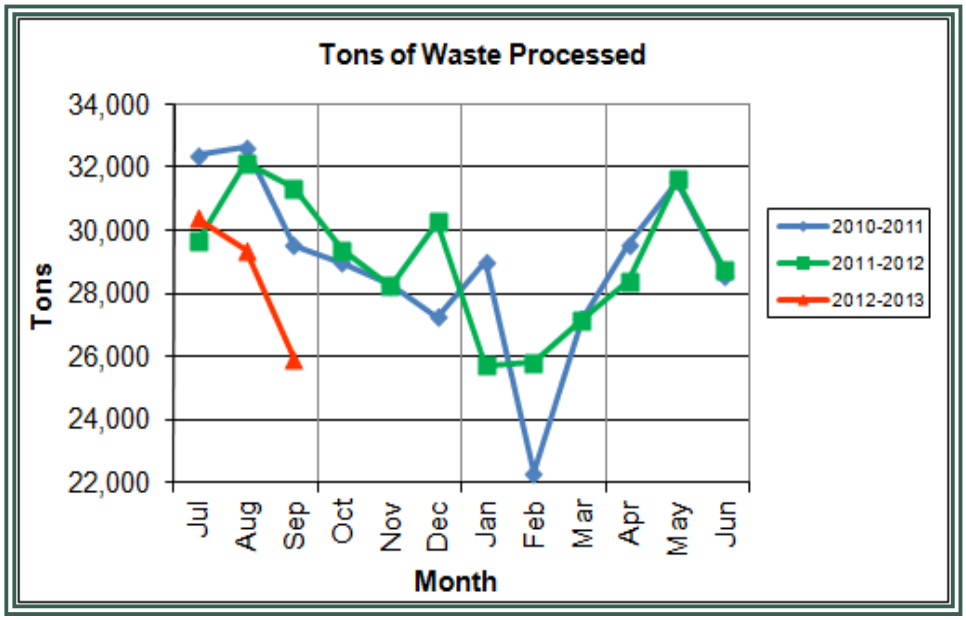


Chart 1 illustrates that Q1FY13 waste processed was lower (8.0%) than the corresponding quarter Q1FY12. The significant decrease in waste production is attributable to the 426 hours of downtime (scheduled and unscheduled) experienced by the boilers during the quarter. CAAI reported that 541 tipping floor/MSW inspections were conducted during the quarter and 12 notices of violation (NOV) were issued.

- July – Eight (8) NOV were issued for the following:
  - Three (3) NOV issued for too many drivers on the ramp
  - Five (5) NOV issued for unacceptable waste.
- August – One (1) NOV issued for demolition debris in the load
- September – Three (3) NOV for unacceptable waste

Chart 2: Tons of Ash Produced per Ton of Waste Processed

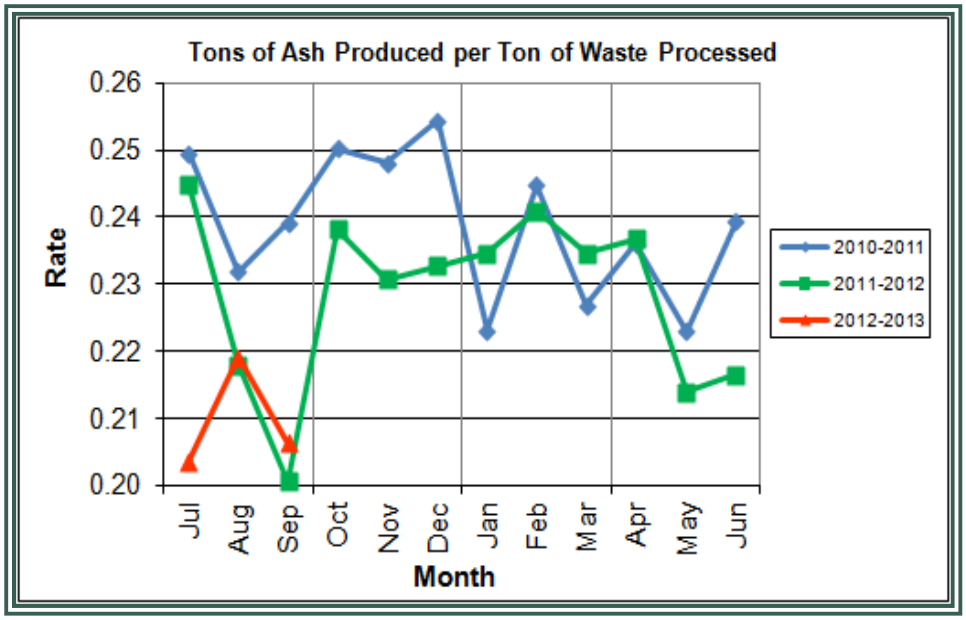


Chart 2 illustrates that ash production rates in Q1FY13 are lower (1.1%) at 21.0% of processed waste, compared to the corresponding quarter in FY12 when the ash production rate was 22.1% of processed waste.

Chart 3: Ferrous Recovery Rate

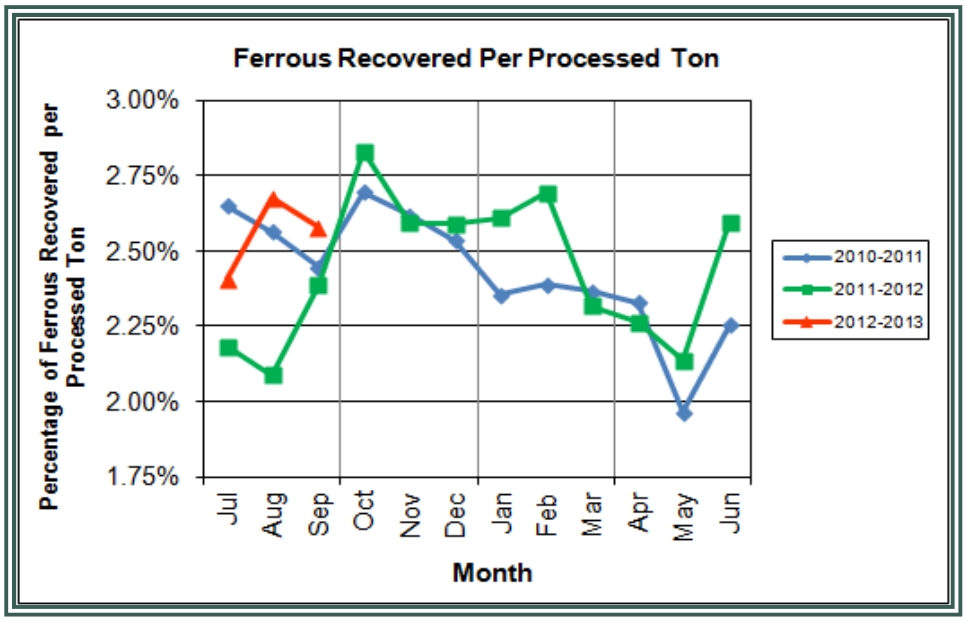
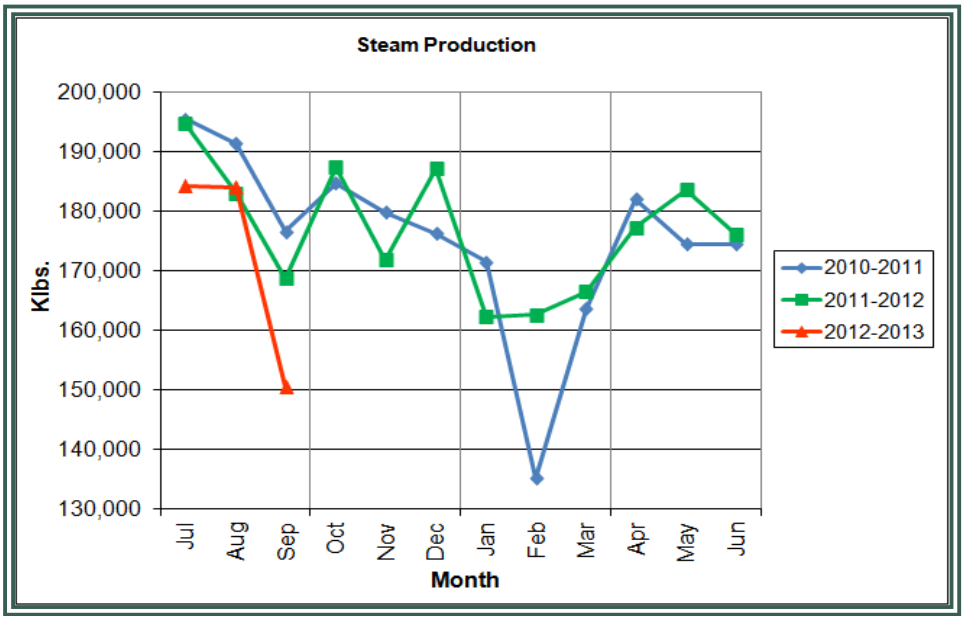


Chart 3 depicts the monthly ferrous metal recovery rate as a percentage of processed MSW tonnage. In Q1FY13, 2,187 tons of ferrous metals were recovered, which is 5.9%

higher than the corresponding quarter in FY12 and equivalent to 2.6% of processed waste. Ferrous metal recovered since the system was added in May 2007, totals 42,239 tons.

Chart 4: Steam Production



In Chart 4, the total steam production for Q1FY13 was 518,902 klbs., or 5.0% lower than the corresponding quarter in FY12. The decrease in steam production can be attributed to the periods of unscheduled and scheduled downtime totaling 426 hours for the boilers during the quarter.

Chart 5: 12-Month Rolling Steam Production

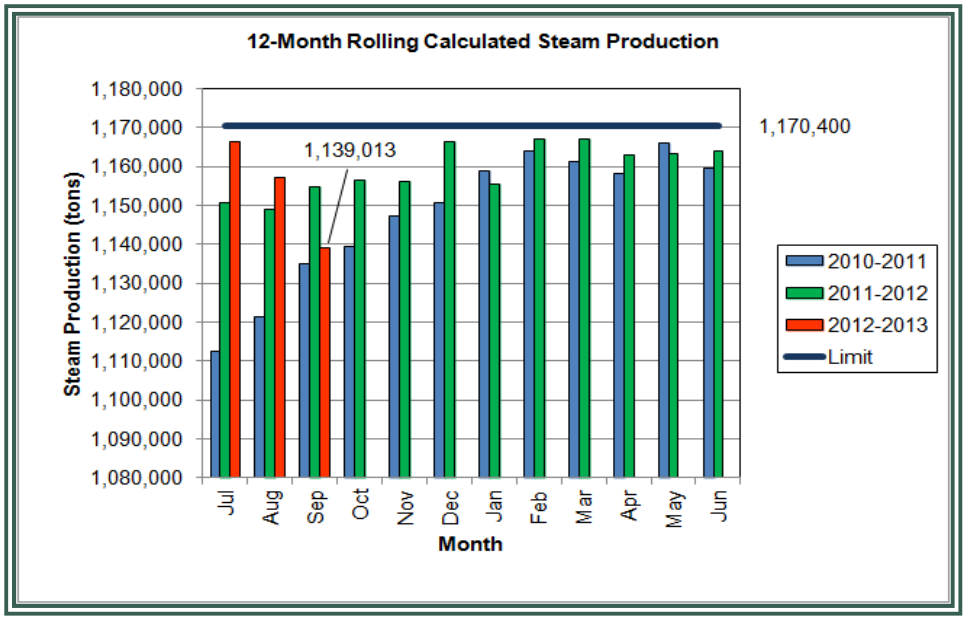
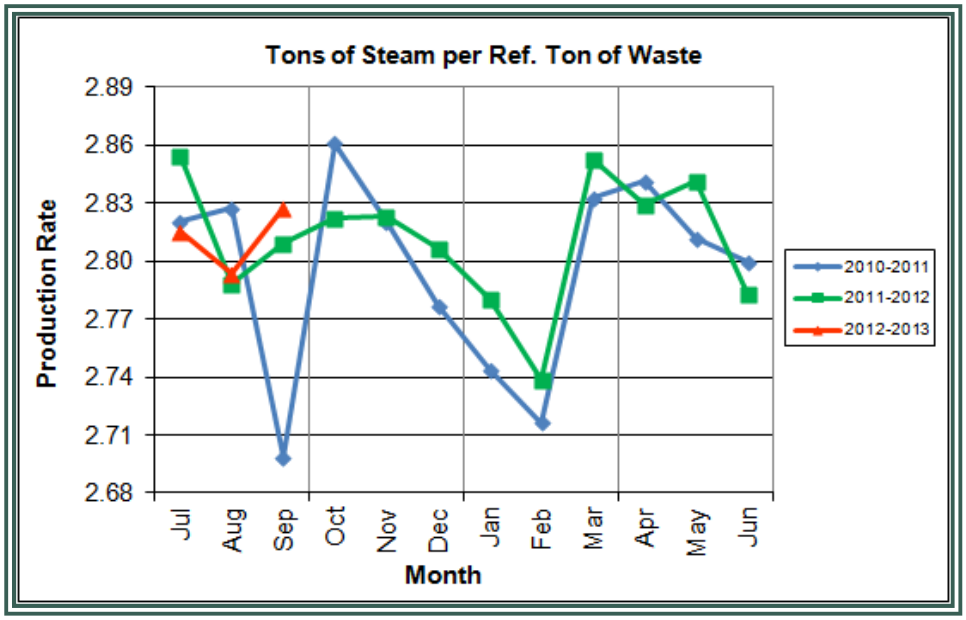


Chart 5 depicts the 12-month rolling steam production total for the period ending in September 2012. According to the Title V permit, the annual steam production for the Facility shall not exceed 1,170,400 tons on the basis of an average value of 3.34 lbs of steam per lb of MSW processed, calculated monthly as the sum of each consecutive 12 month period. The Facility was in compliance with the 12-month rolling steam production total every month in the quarter. The 12-month rolling total for steam production ending in September was 1,139,013 tons which is 97.3% of the limit.

Examination of Chart 5 values compared to the "red-line" limit show that since July 2012, the Facility throughput has decreased resulting from periods of scheduled and unscheduled downtime.

Chart 6: Steam Production Rate



In Chart 6, the conversion of raw waste tonnages into "reference tons" is another way of looking at the issue of steam production, and helps to determine whether changes are related to boiler performance or to fuel issues. "Reference tons" are adjusted to account for the calculated average fuel heating value, so that lower Btu fuel raw tonnages are adjusted upwards and vice versa. In this case, Q1FY13 tracked slightly lower (0.3%), at 2.81 $tons_{steam/}ton_{ref}$, than the corresponding quarter in FY12. HDR concludes that the boiler operational performance has not deteriorated, and that the declining metrics for steam and electricity during the quarter was attributed to downtime, especially the cold iron outages at the end of September 2012.

Chart 7: Calculated Waste Heating Value

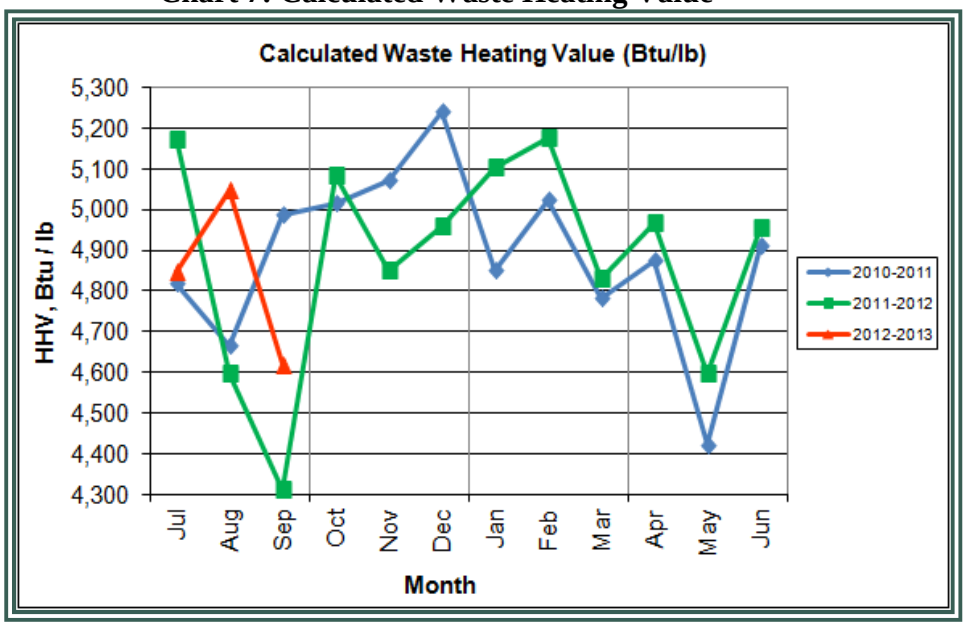


Chart 7 illustrates that Q1FY13 average waste heating value was higher (3.1%) at 4,838 Btu/lb than the corresponding quarter Q1FY12, which averaged 4,694 Btu/lb.

Table 2: Quarterly Performance Summaries

Month		Waste Processed (tons)	Waste Diverted (tons)	Ash Shipped (tons)	Special Handling (Supplemental) (tons)	Ferrous Recovered (tons)	Steam Produced (klbs)	Net Electrical Generation (kWhr)
Q1FY11	**Quarterly Totals**	**94,540**	**0**	**22,708**	**37**	**2,418**	**563,529**	**40,170**
	July-10	32,366	0	8,074	8	858	195,479	13,997
	August-10	32,636	0	7,568	17	837	191,415	13,508
	September-10	29,538	0	7,066	12	723	176,635	12,665
Q1FY12	**Quarterly Totals**	**93,129**	**0**	**20,546**	**54**	**2,066**	**546,447**	**38,196**
	July-11	29,652	0	7,258	10	647	194,649	13,894
	August-11	32,130	0	7,003	10	671	183,063	12,686
	September-11	31,347	0	6,285	34	748	168,735	11,616
Q1FY13	**Quarterly Totals**	**85,696**	**0**	**17,970**	**242**	**2,187**	**518,902**	**36,007**
	July-12	30,390	0	6,185	151	732	184,330	13,067
	August-12	29,376	0	6,437	11	786	184,057	12,978
	September-12	25,930	0	5,348	80	669	150,515	9,962
FY13 YTD Totals		**85,696**	**0**	**17,970**	**242**	**2,187**	**518,902**	**36,007**
FY12 Totals		**348,455**	**0**	**79,424**	**336**	**8,474**	**2,121,209**	**149,919**
FY11 Totals		**347,193**	**0**	**82,851**	**203**	**8,444**	**2,105,620**	**149,143**

Table 2 represents the production data provided to HDR by CAAI for Q1FY13 on both a monthly and quarterly basis. For purposes of comparison, data for Q1FY11 and Q1FY12 are also shown, as well as FY11, FY12 and FY13 year to date (YTD) totals.

On an overall basis, the data shows that less waste was processed, less electricity was generated, and less steam was produced in Q1FY13 as compared to Q1FY12 and Q1FY11. Please note the total steam generation figures presented in Table 2 do not correlate with the annual steam production limit from the Facility Permit; such limits apply on a 12-month rolling average monthly basis, and not a fiscal year basis. It is also worth noting that the quantity of supplemental waste, while still a small percentage of overall waste, has more than quadrupled in Q1FY13 compared to the same periods in the prior two (2) fiscal years.

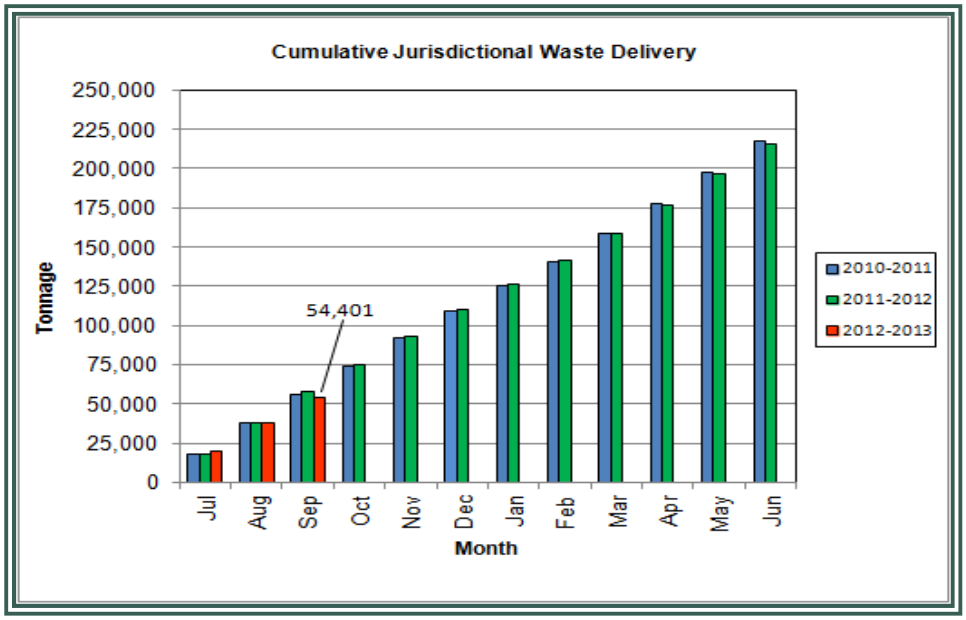
Table 3: Jurisdictional vs. Non-Jurisdictional Waste Delivery

		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	September	Jun	Totals
FY09	Jurisdiction waste toward GAT	21,811	20,088	20,960	20,628	19,675	20,519	18,637	16,317	18,216	19,630	20,225	20,781	237,486
	Spot Waste tons	9,964	8,814	8,572	8,280	5,124	12,303	8,829	8,619	11,290	9,205	9,363	10,048	110,411
	MSW Totals	**31,775**	**28,903**	**29,532**	**28,908**	**24,799**	**32,821**	**27,466**	**24,936**	**29,506**	**28,835**	**29,588**	**30,829**	**347,898**
FY10	Jurisdiction waste toward GAT	19,355	18,924	19,036	18,555	18,523	18,388	16,380	14,635	19,308	19,423	18,764	19,796	221,087
	Spot Waste tons	8,261	10,117	6,996	9,817	7,253	8,117	8,677	7,598	9,293	10,568	10,187	10,830	107,713
	MSW Totals	**27,616**	**29,041**	**26,032**	**28,372**	**25,776**	**26,505**	**25,056**	**22,233**	**28,601**	**29,991**	**28,951**	**30,626**	**328,799**
FY11	Jurisdiction waste toward GAT	18,201	19,320	18,100	18,244	17,812	17,394	16,316	15,212	18,279	18,596	20,355	19,382	217,213
	Spot Waste tons	13,996	13,917	11,696	9,336	10,177	11,441	12,968	7,016	8,459	10,177	12,947	9,657	131,786
	MSW Totals	**32,197**	**33,237**	**29,796**	**27,580**	**27,989**	**28,835**	**29,284**	**22,228**	**26,738**	**28,774**	**33,302**	**29,038**	**348,999**
FY12	Jurisdiction waste toward GAT	18,112	20,021	19,304	17,796	17,523	17,211	16,202	14,952	17,430	18,338	20,138	18,361	215,381
	Spot Waste tons	8,901	13,623	13,303	9,788	11,976	11,900	10,276	10,697	10,283	10,029	11,333	10,177	132,295
	MSW Totals	**27,013**	**33,644**	**32,607**	**27,584**	**29,499**	**29,111**	**26,478**	**25,650**	**27,714**	**28,367**	**31,471**	**28,538**	**347,676**
FY13	Jurisdiction waste toward GAT[1]	19,413	18,357	16,632[3]										54,401 [2]
	Spot Waste tons	10,516	11,326	10,610										32,452 [2]
	MSW Totals	**29,928**	**29,683**	**27,241**										**86,853 [2]**

Note (1): Jurisdictional Waste Totals do not include Supplemental Waste tonnages specified in the CAAI issued monthly data
Note (2): Values shown indicate year to date (YTD) totals
Note (3): Total includes 505 tons shortfal by PDS Hauler

Jurisdictional waste is processible waste that is delivered to the Facility under the direction and control of the City of Alexandria, and Arlington County, as part of the contract Guaranteed Annual Tonnage (GAT). Non-jurisdictional waste is spot waste delivered to the Facility as directed by CAAI. Table 3 represents the monthly and fiscal year total waste delivered to the Facility, classified by jurisdictional and non-jurisdictional waste. Historically, jurisdictional waste delivered represents roughly two thirds (2/3) of the total waste delivered. Note that the tonnages reported in Table 3 for ***delivered*** waste differ slightly from those in Table 2, which lists ***processed*** waste.

Chart 8: Cumulative Jurisdictional Waste Delivery



As shown in Chart 8, for the period ending in September 2012, cumulative jurisdictional waste delivery decreased 5.3% compared to the same period in FY12. Depicted in Chart 9, for the period ending in September 2012; cumulative total waste delivery decreased 6.9% compared to the same period in FY12. Note that Chart 9 incorporates supplemental waste deliveries, and is not based off the MSW total waste year to date values in Table 3 on Page 15.

Chart 9: Cumulative Total Waste Delivery

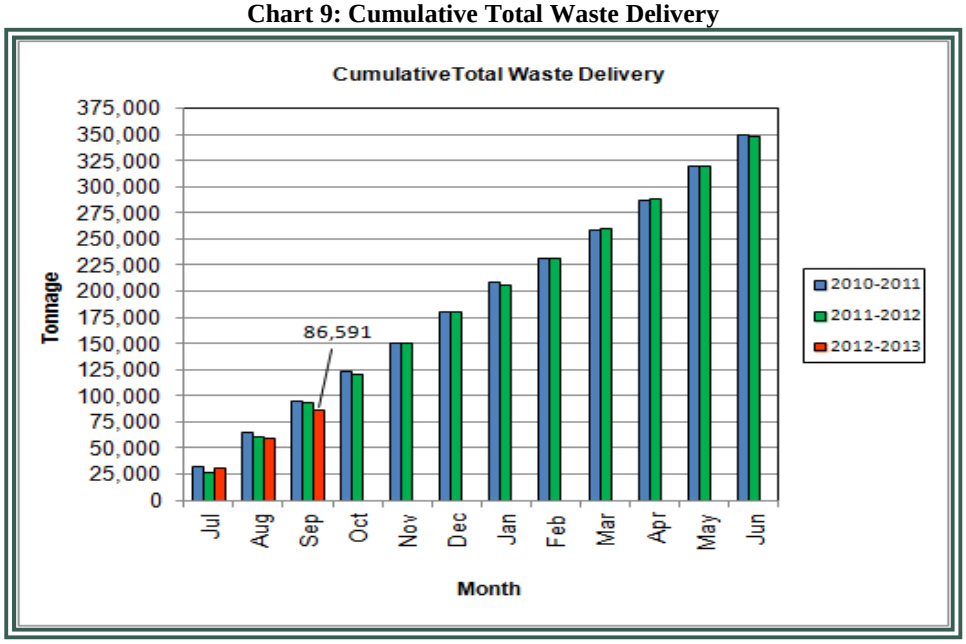
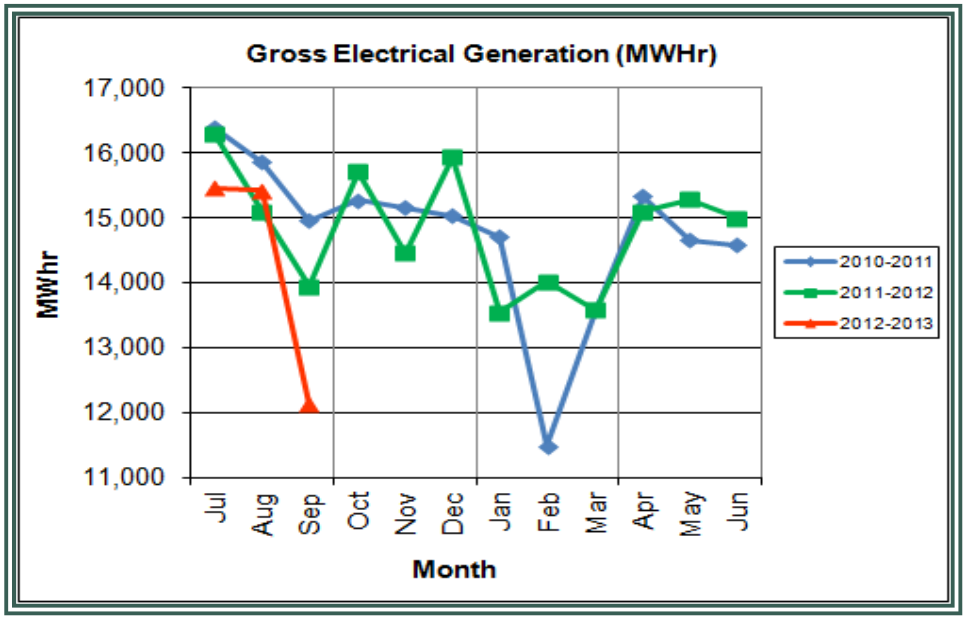
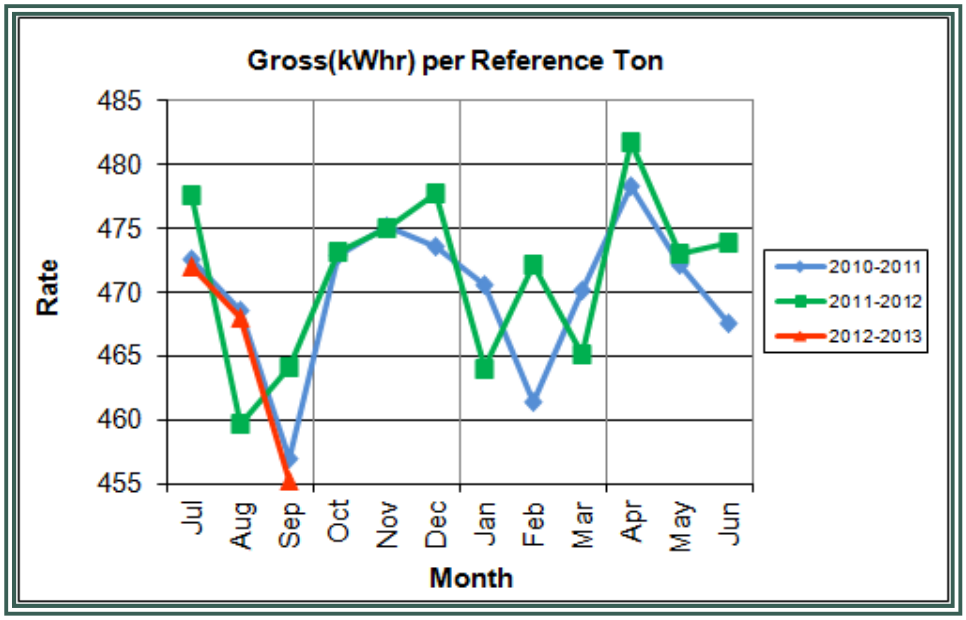


Chart 10: Gross Electrical Generation



During Q1FY13, the Facility generated 42,989 MWhrs (gross) of electricity compared to Q1FY12 generation of 45,312 MWhrs (gross), a 5.1% decrease. The decrease in gross electrical production is commensurate with the downtime experience by the boilers (426 hours) and the turbine generators (109.2 hours) during the quarter. Note that the significant decrease from August to September is attributable to the downtime experienced during the month that resulted in a three-boiler availability of 83.3% and a two-turbine availability of 92.4%, which negatively impacted steam generation and electrical production.

Chart 11: Gross Conversion Rate



As shown in Chart 11, the average gross electrical generation per reference ton of refuse processed during Q1FY13 was 465 kWhr, which is slightly higher (0.4%) than the corresponding period in FY12. Since this calculated value uses reference or normalized tonnages of waste, it should cancel the effect of MSW heating value (Btu content) variability. These metrics are indicative of comparable operational efficiency of the turbine generators, despite the lower level of steam generation.

Chart 12: Net Conversion Rate

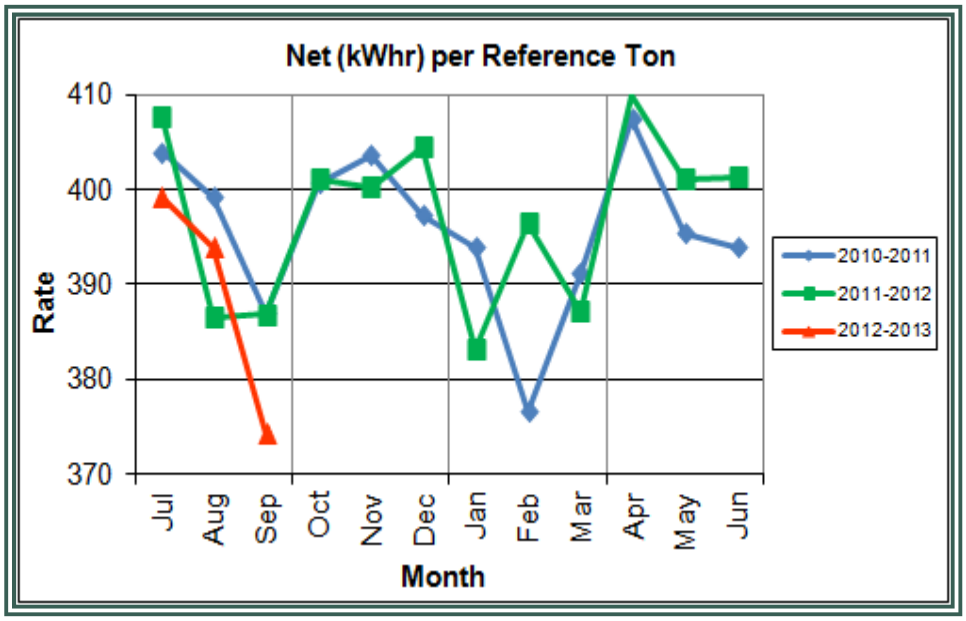


Chart 12 depicts the normalized net power (gross minus in-house usage) generation history. In Q1FY13, the average net electrical generation per reference ton was 389 kWhr, which is 1.1% lower than the corresponding quarter in FY12.

Chart 13: Net Conversion Rate

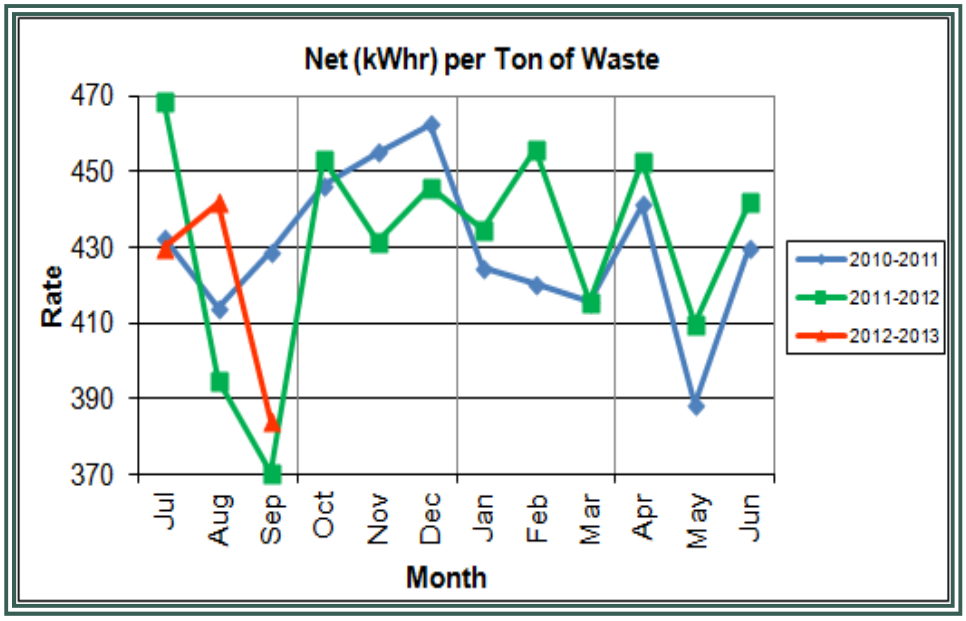
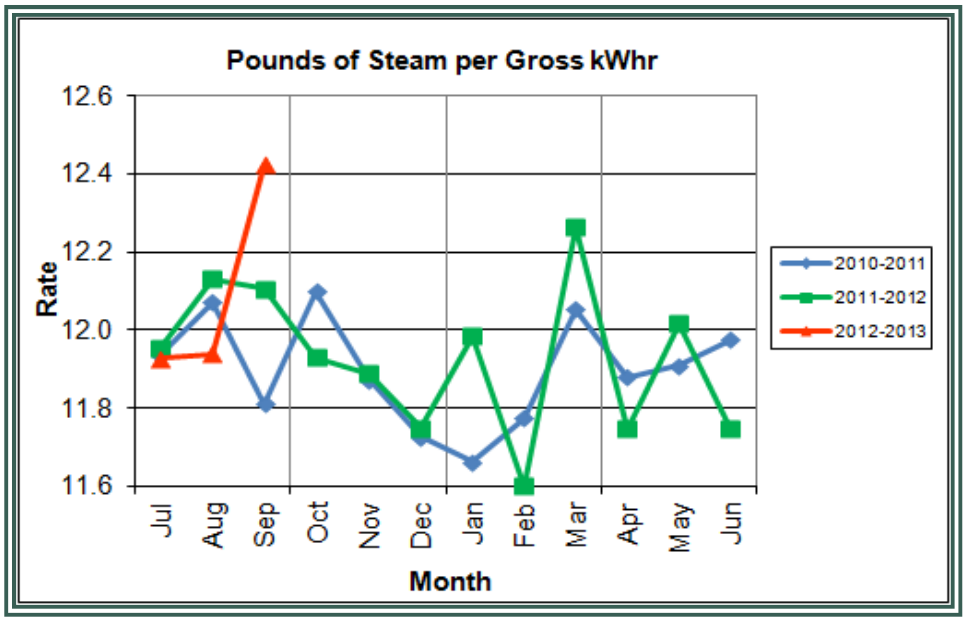


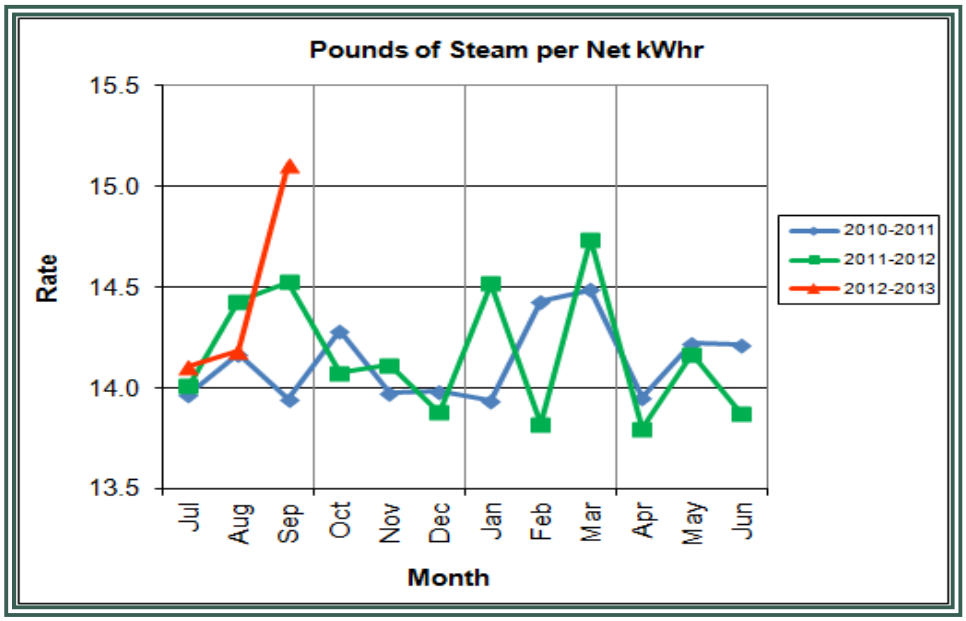
Chart 13 depicts the net power generation per processed ton. The net electrical generation per processed ton in Q1FY13 was 419 kWhr, which is 1.8% higher than the corresponding quarter in FY12. This is indicative of the higher waste heating value.

Chart 14: Gross Turbine Generator Conversion Rate



Charts 14 and 15 illustrate the quantities of steam required to generate one kWhr of electricity, gross and net respectively. This measure is a turbine generator performance indicator, where lower steam rates indicate superior performance. For simplification, this calculated rate is based on the average for the two turbine generators. In Q1FY13 the average lbs of steam consumed per gross kWhr was 12.1, which is slightly higher (0.1%) than the corresponding quarter Q1FY12. The average steam temperature during the quarter was 701.4 F, which is slightly lower (less than 0.1%) than the average steam temperature of the corresponding quarter last year, and 1.4^{o} F higher than design temperature of 700^{o} F.

Chart 15: Net Turbine Generator Conversion Rate



5.0 Facility Availability

Facility availabilities for Q1FY13 are shown in Table 4. According to CAAI reports, the average unit availabilities for Boiler Nos. 1, 2, and 3 for Q1FY13 were 95.4%, 94.7%, and 90.2%, respectively. The three-boiler average availability during the quarter was 93.5%, which is good.

During Q1FY13, the average availability for Turbine Generator Nos. 1 and 2 was 97.5%, each. The two-turbine generator average availability of 97.5% is below normal, and attributable to the September cold iron outage.

Table 4: Quarterly Facility Unit Availabilities

Availability	Q1FY13 Average
Boiler No. 1	95.4%
Boiler No. 2	94.7%
Boiler No. 3	90.2%
Avg.	***93.5%***
Turbine No. 1	97.5%
Turbine No. 2	97.5%
Avg.	***97.5%***

5.1 Facility Operations

During Q1FY13, the Facility experienced six (6) instances of unscheduled downtime for the boilers, and no unscheduled downtime for the turbine generators. On July 8th, Boiler No. 2 experienced 13.9 hours of unscheduled downtime for fouling in the superheater. On August 10th, Boiler No. 2 experienced 12.9 hours of unscheduled downtime to repair an external waterwall tube leak. Beginning August 9th, Boiler No. 3 experienced 36.6 hours of unscheduled downtime to replace the economizer inlet check valve. On August 29th, Boiler No. 2 experienced 2.0 hours of unscheduled downtime for a stoker Programmable Logic Controller (PLC) failure. On September 11th, Boiler No. 1 experienced 18.4 hours of unscheduled downtime to repair broken grate bars. On September 14th, Boiler No. 2 experienced 32.5 hours of unscheduled downtime for generating bank and superheater fouling. No standby time was experienced by the Facility during Q1FY13.

Beginning September 15th, Boiler No. 3 experienced 123.7 hours of downtime for scheduled maintenance. Some significant maintenance items conducted during the outage included:

- Replacement of the stoker hydraulic skid cooler
- Repacking of several valves at the steam drum area
- Replacement of four (4) isolation valves for the ammonia station
- Change-out of the fly ash transfer conveyor gear box
- Replacement of the Sootblower G9B No. 3 and G9B No. 4 elements
- Replacement of the over-fire air fan inboard bearing

- Replacement of the baffle plates and supports for the inlet side of the generating bank
- Replacement of the feed table "shark fins" on the feed rams and both side skirts
- Replacement of corroded piping on the north and south side waterwall drains
- Replacement of the Lime Slurry Actuator Valve

Along with Boiler No. 3 scheduled maintenance, cold iron scheduled maintenance began with Boiler No. 1 coming offline on September 27th, followed by Boiler Nos. 2 and 3 on September 28th. Boiler downtime in September for cold iron activities was 80.0 hours for Boiler No. 1, and 53.0 hours (each) for Boiler Nos. 2 and 3. Beginning September 28th, Turbine Generator Nos. 1 and 2 experienced 55.0 hours of downtime, and 54.2 hours of downtime, respectively, for cold iron maintenance. Some significant maintenance items conducted during September for the cold iron outage included:

- Replacement of the Continuous Blow Down (CBD) to the Deaerator (DA) isolation valves
- Installation of a new Automatic Recirculation Control (ARC) Valve on Boiler Feedpump No. 2
- Replacement of LCV831 inlet and outlet butterfly valves
- Replacement of the Air Pollution Control (APC) water meter in the ferrous magnet room
- Replacement of the inlet valves for all three (3) chemical injection tanks
- Replacement of the DA tank relief valve flex and vent line isolation valve
- Replacement of Turbine Generator No. 2 Cooling Water Inlet Valve
- Replacement of the inlet and outlet isolation valves for the auxiliary cooling water pumps
- Replacement of the auxiliary cooling water duplex strainer
- Replacement of all four (4) inlet valves off the slurry tank
- Replacement of FCV-893 Bypass valve
- Replacement of valve and piping on FCV-893 pressure tap
- Repacking of Turbine Generator No. 2 High and Low Pressure Extraction Valves

- Replacement of the steam supply valves for the Nos. 1 and 2 hoggers
- Replacement of the inlet and outlet valves to the DA tank sight glass and associated piping.
- Replacement of both steam isolation valves for the Turbine Driven Feed Pump
- Replacement of all the valves and piping at the makeup tank for the heat exchanger
- Replacement of the low pressure return valve to the CBD tank
- Installation of a new isolation valve in the drain header to the cooling tower
- Replacement of the inlet valve to the regulator of the city water to the Reverse Osmosis line
- Replacement of the piping for the drains off Turbine Generator Nos 1 and 2 Trip and Throttle (T&T) valves
- Replacement of the steam flow orifice plates on all three (3) boilers
- Replacement of all three (3) boiler steam stop valves
- Replacement of all three (3) boiler guardian valves
- Inspection and repair of all three (3) boiler non-return valves
- Replacement of Turbine Generator No. 1 Gland Exhaust Condenser
- Replacement of Steam Isolation Valve Nos. 705 (Turbine No. 1) and 755 (Turbine No. 2)
- Inspection and repair of the low pressure extraction valve on Turbine No. 1
- Overhaul of Flow Control Valve (FCV)-800 inlet to the dump condenser
- Inspection of the multi-port valve of the DA
- Installation of new check valve off the low pressure header
- Completion of the 5-year and 2.5-year switch gear inspections on all 13.8 kV, 4160 V and 480 V switch gears
- TG No.1 control and monitoring system enhancements (Woodward 505).
- Repairs to concrete in tip floor inlet ramp and ash alley.

Additional maintenance was conducted during Q1FY13 with the completion of 2,184 preventative maintenance items.

5.2 Utility and Reagent Consumptions

Table 5: Facility Utility and Reagent Consumptions

Utility	Units	Q1FY13 Total	Q1FY12 Total	Q1FY13"Per Processed Ton" Consumption	Q1FY12"Per Processed Ton" Consumption
Purchased Power	MWhr	5,478	5,530	0.06	0.06
Fuel Oil	Gal.	13,880	27,990	0.16	0.30
Boiler Make-up	Gal.	2,033,000	1,545,000	23.72	16.59
Cooling Tower Make-up	Gal.	44,613,815	47,761,293	520.61	512.85
Pebble Lime	Lbs.	1,096,000	1,342,000	12.79	14.41
Ammonia	Lbs.	136,000	120,000	1.59	1.29
Carbon	Lbs.	102,000	110,000	1.19	1.18
Dolomitic Lime	Lbs.	316,000	398,000	3.69	4.27

Fuel oil usage during the quarter represents approximately 0.25% of the total heat input to the boilers, which compares favorably with industry averages, and is lower than the percentage in Q1FY12 at 0.46%. Fuel oil is used to stabilize combustion of wet fuel, as well as start-up and shut-down of the boilers for maintenance. Boiler makeup water usage during the quarter represents 3.3% of steam flow, and is acceptable. Pebble lime usage, at 1,096,000 lbs. is lower (18.3%) than the corresponding quarter last year, and the quarterly consumption rate of 12.8 lbs/ton is significantly lower than historical levels (16-18 lbs/ton).

In comparing Q1FY13 to Q1FY12 on a per processed ton consumption basis:

- the purchased power consumption rate was 7.7% higher
- the total fuel oil consumption rate was 46.1% lower
- the boiler make-up water consumption rate was 43.0% higher
- the cooling tower make-up water consumption rate was 1.5% higher
- the total pebble lime consumption rate was 11.3% lower
- the ammonia consumption rate was 23.2% higher
- the carbon consumption rate was 0.8% higher
- the total dolomitic lime consumption rate was 13.7% lower

The significant decrease of fuel oil usage during the quarter is attributable to dryer fuel conditions alleviating usage for combustion stabilization and for fewer instances in which it was required for Carbon Monoxide (CO) control purposes (one 4-hour CO exceedance in Q1FY13 as compared to five 4-hour CO exceedances in Q1FY12). Despite the significant decrease in pebble lime used for acid gas control, the SO_2 levels did not increase, indicating less sulfur in the waste stream.

6.0 Environmental

The retrofit air pollution control equipment maintained emission concentrations well within the established regulations. Average Continuous Emission Monitoring System (CEMS) data collected for each monthly period during Q1FY13 are summarized in Appendix A. The Facility experienced one (1) Reportable Non Exempt (RNE) permit exceedance during the quarter, which is summarized in Table 6, and as follows:

On July 8th the facility experienced a RNE permit exceedance when Boiler No. 2 Carbon Monoxide (CO) 4-hour level reached 142 ppm (100 ppm limit) while the unit was being shut down for fouling of the superheater upper bundle.

Table 6: Quarterly Environmental Excursions

Number	Date	Excursion	Exempt
1	8/8/12	Boiler No. 2 4-hour CO levels reached 142 ppm (100 ppm limit)	No

6.1 Nitrogen Oxide Emissions

During Q1FY13, the monthly emission concentrations of nitrogen oxides (NO_x) averaged 162.0 ppmdv, 159.0 ppmdv and 162.3 ppmdv for Boiler Nos. 1, 2, and 3, respectively. CAAI continues to operate the units at the lower (160 ppmdv) set-points, except immediately following a scheduled outage and associated boiler cleaning. This reduction is a voluntary measure as requested by the Trustees.

6.2 Sulfur Dioxide Emissions

During Q1FY13 the monthly emission concentration of stack sulfur dioxide (SO_2) averaged 1.0 ppmdv for Boiler No. 1, and 0.7 ppmdv for Boiler Nos. 2 and 3. All of

these stack SO_2 concentrations are significantly below the 40 CFR Subpart Cb requirement of 29 ppmdv @ 7% O_2.

6.3 Carbon Monoxide Emissions

During Q1FY13, the average CO emission concentrations on Boiler Nos. 1, 2, and 3 were 28.3 ppmdv, 29.3 ppmdv, and 28.3 ppmdv, respectively, and all are well within permit limits (100 ppmdv, hourly average).

6.4 Opacity

During Q1FY13, the average opacity for Boiler Nos. 1, 2, and 3, respectively were 0.4%, 0.2%, and 0.3%. All of these averages are significantly below the 10% (6-minute) average permit limit.

6.5 Daily Emissions Data

Appendix A, Tables 9, 10, and 11 tabulate the monthly average, maximum, and minimum emissions data for each unit during Q1FY13. Excursions, if any, would appear in bold print. It should be noted that these tabulations of monthly averages, reported here for informational purposes, are based on tabulations of daily averages. These averages do not correlate with official reports to the regulatory agencies because of differences in averaging times and other technical differences required by agency report formats.

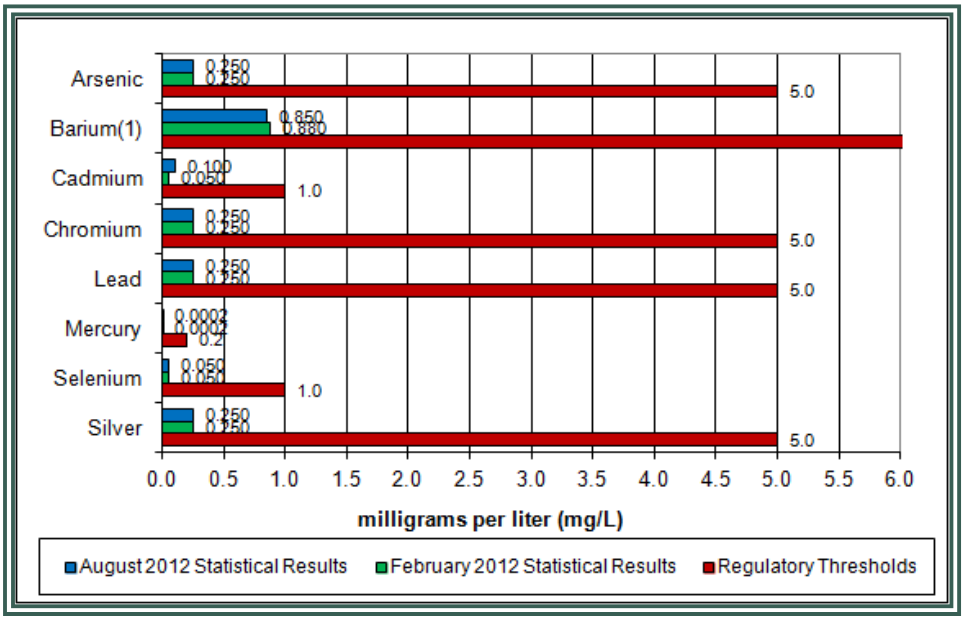
6.6 Ash System Compliance

The dolomitic lime feed rate is adjusted periodically in order to maintain a desired ash pH level in the range of 8.0 to 11.0. Since initial startup, the feed rate has varied from between 4 to 9 lbs per ton. Ash Toxicity (TCLP) tests were performed for field samples collected over a seven day period in August 2012, and test results indicate that the average pH during testing was 9.8. Results from the TCLP testing conducted in February 2012 are depicted in Table 7 and Chart 16 below.

Table 7: Comparison of Statistical Results and Regulatory Thresholds for Metal Analytes

Metals	90% Upper Confidence (February 2012)	90% Upper Confidence (August 2012)	Regulatory Threshold (mg/L)	% of Threshold (February 2012)	% of Threshold (August 2012)
Arsenic	0.250	0.250	5.0	5.00%	5.00%
Barium	0.880	0.850	100.0	0.88%	0.85%
Cadmium	0.050	0.100	1.0	5.00%	10.00%
Chromium	0.250	0.250	5.0	5.00%	5.00%
Lead	0.250	0.250	5.0	5.00%	5.00%
Mercury	0.0002	0.0002	0.2	0.10%	0.10%
Selenium	0.050	0.050	1.0	5.00%	5.00%
Silver	0.250	0.250	5.0	5.00%	5.00%

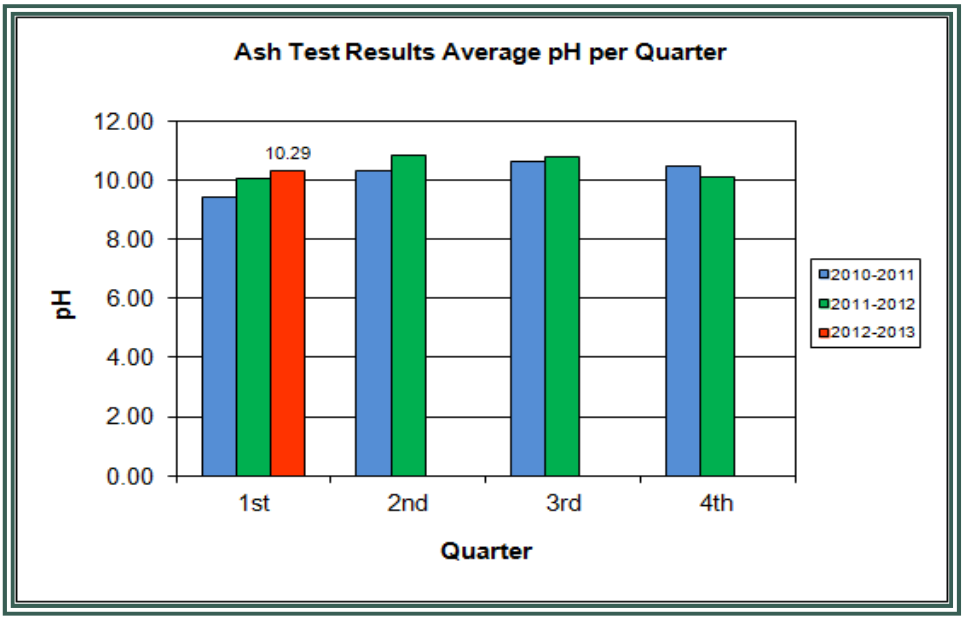
Chart 16: Ash Test Results



Note: The regulatory threshold for Barium is 100 mg/L

CAAI also samples ash monthly, and documents pH reading to adjust dolomitic lime feed rate. The results for the ash pH tests are found below in Chart 17 where each quarter is represented by the average of the respective monthly readings. During Q1FY13, the average ash pH for in-house tests was 10.3.

Chart 17: Ash Test Results



6.7 Steam Production Issues

In October, 2007, VADEQ issued CAAI a "Warning Letter" (WL) regarding alleged violations of Condition 14 of the Facility's Prevention of Significant Deterioration (PSD) permit issued in 2002. In response to the WL, CAAI recalculated annual steam production totals according to the VADEQ's methodology which was to track the annual limit on a monthly basis, by adding the current month's production to the previous 11 months' total, and comparing it to the annual 1.12 million ton limit (Previously, CAAI tracked the annual limit on a calendar year basis, and not monthly). The recalculated data showed that the Facility exceeded the steam production limits on several occasions. Although there were not any exceedances of air emissions at the Facility, VADEQ issued a Notice of Violation (NOV) on February 29, 2008.

In March 2009, CAAI and VADEQ entered into a letter of agreement (LOA) to resolve the alleged violations. The tenets of the agreement stipulate that:

> The annual steam production for the Facility shall not exceed 1,170,400 tons on the basis of an average value of 3.34 lbs of steam per lb of MSW processed, calculated monthly as the sum of each consecutive 12 month period, as compared to the measured totalized steam flow that was previously used.

Chart 5 on page 12 depicts the steam production total calculated monthly as the sum of each consecutive 12-month period.

While the agreement with DEQ settled a long-standing issue and clarifies the methodology to be used, HDR considers it to be a flawed approach, and not consistent with general industry practice. The DEQ approach relies on a more-subjective method of calculating steam flow based on the tonnage of waste processed. Determination of monthly tonnage of waste processed relies on estimates of the quantity of waste in the pit, based only on visual observation. In addition, it is well known that waste at the bottom of the pit has significantly higher density (weight per volume) than that at the top of the pit, and this is not factored into the monthly tonnage. Finally, the conversion of MSW tonnage to steam production ignores the variability in waste heating value.

7.0 Facility Maintenance

Throughout the quarter, significant routine and planned maintenance was performed. HDR considers that the Facility is implementing a very effective maintenance regimen, and is performing routine and preventative maintenance, along with selected equipment replacements in a timely manner. CAAI monthly maintenance reports provide a detailed account of maintenance performed.

7.1 Safety

The plant had no recordable accidents during the quarter. The plant has operated 682 days without an OSHA recordable incident through the end of September 2012. Safety training was conducted during the quarter with themes as follows:

July 2012 - Electrical Safety
August 2012 - Lock-out Tag-out (LOTO)
September 2012 - Hazard Communication

7.2 Facility Housekeeping

CAAI is performing Facility housekeeping and maintaining plant cleanliness in accordance with acceptable industry practices. Site inspections were conducted in July and September 2012. At the time of the inspections, new deficiencies were recorded and

prior deficiencies were given a status updates. Photos of interest from the inspections are depicted in Appendix B. The Facility housekeeping ratings from the September 2012 inspection are presented in Table 9.

Table 8: Facility Housekeeping Ratings – September 2012

Facility Area	Highly Acceptable	Acceptable	Needs Improvement	Unacceptable
Tipping Floor		√		
Citizen's Drop-off Area		√		
Tipping Floor Truck Exit		√		
Front Parking Lot		√		
Rear Parking Lot		√		
Boiler House Pump Room		√		
Lime Slurry Pump Room		√		
Switchgear Area		√		
Ash Load-out Area		√		
Vibrating Conveyor Area	√			
Ash Discharger Area		√		
Cooling Tower Area		√		
Truck Scale Area		√		
SDA/FF Conveyor Area		√		
SDA Penthouses		√		
Lime Preparation Area		√		
Boiler Drum Levels		√		
Turbine Room	√			
Electrical Room		√		

APPENDIX A
FACILITY CEMS DATA

Table 9: Unit #1 Monthly Summary for Reportable Emissions Data

Group#-Channel#		G8-C35	G8-C28	G8-C8	G8-C4	G8-C12	G8-C34	G8-C37	G8-C40	G8-C39
Long Descrip.		U-1 Steam	U-1 Econ	U-1 Stack	U-1 Stack	U-1 Stack	U-1 Opaci	U-1 FF In	U-1 Carbo	U-1 Lime
Short Descrip.		SteamFl	SO_2ec	SO_2sc	COsc	NO_xsc	Opacity	FF InTemp	CarbInj	LimeFlow
Units		K#/Hr	ppmc	ppm	ppmc	ppmc	%	deg F	#/hr	gpm
Range		0-100	0-2000	0-500	0-4000	0-1000	0-100	100-500	0-50	0-20
Jul-12	AVG	83.7	29.0	1.0	25.0	162.0	0.2	303.0	17.2	2.8
	Max	88.1	44.0	5.0	38.0	164.0	0.6	307.0	19.7	3.4
	Min	78.8	10.0	0.0	17.0	159.0	0.1	299.0	16.5	2.5
Aug-12	AVG	86.7	31.0	1.0	30.0	163.0	0.3	304.0	17.5	2.9
	Max	89.1	55.0	3.0	37.0	189.0	0.7	307.0	18.7	3.9
	Min	83.7	19.0	0.0	21.0	159.0	0.0	302.0	16.5	2.6
Sep-12	AVG	81.4	27.0	1.0	30.0	161.0	0.6	303.0	17.3	2.9
	Max	92.2	42.0	2.0	44.0	169.0	1.3	308.0	20.8	3.4
	Min	60.3	6.0	0.0	17.0	154.0	0.1	299.0	16.9	2.7
Quarter Average		83.9	29.0	1.0	28.3	162.0	0.4	303.3	17.3	2.9
Quarter Max Value		92.2	55.0	5.0	44.0	189.0	1.3	308.0	20.8	3.9
Quarter Min Value		60.3	6.0	0.0	17.0	154.0	0.0	299.0	16.5	2.5
Limits:		NA	NA	29	100	205	10	320	16(a)	

(a) Carbon flow limit is a minimum value

* Note: The data reported herein represent 24 hour average data for all parameters. Emissions excursions that are measured on shorter time intervals (ie., 4-hour block averages for CO) do not correlate with the 24 hour average data reported above.

Table 10: Unit #2 Monthly Summary for Reportable Emissions Data

Group#-Channel#		G8-C35	G8-C28	G8-C8	G8-C4	G8-C12	G8-C34	G8-C37	G8-C40	G8-C39
Long Descrip.		U-2 Steam	U-2 Econ	U-2 Stack	U-2 Stack	U-2 Stack	U-2 Opaci	U-2 FF In	U-2 Carbo	U-2 Lime
Short Descrip.		SteamFl	SO_2ec	SO_2sc	COsc	NO_xsc	Opacity	FF InTemp	CarbInj	LimeFlow
Units		K#/Hr	ppmc	ppm	ppmc	ppmc	%	deg F	#/hr	gpm
Range		0-100	0-2000	0-500	0-4000	0-1000	0-100	100-500	0-50	0-20
Jul-12	AVG	85.2	27.0	0.0	26.0	158.0	0.2	300.0	16.4	2.9
	Max	91.0	47.0	2.0	34.0	161.0	0.7	302.0	17.0	3.4
	Min	59.4	17.0	0.0	10.0	136.0	0.0	293.0	16.1	2.3
Aug-12	AVG	86.1	28.0	1.0	30.0	160.0	0.1	300.0	16.4	3.0
	Max	90.9	39.0	2.0	40.0	184.0	0.4	303.0	16.8	3.5
	Min	78.5	17.0	0.0	20.0	151.0	0.0	298.0	16.2	2.7
Sep-12	AVG	88.1	34.0	1.0	32.0	159.0	0.4	300.0	17.1	3.0
	Max	95.1	88.0	4.0	51.0	160.0	1.4	302.0	19.0	3.5
	Min	66.3	4.0	0.0	24.0	151.0	0.0	298.0	16.3	2.2
Quarter Average		86.5	29.7	0.7	29.3	159.0	0.2	300.0	16.6	3.0
Quarter Max Value		95.1	88.0	4.0	51.0	184.0	1.4	303.0	19.0	3.5
Quarter Min Value		59.4	4.0	0.0	10.0	136.0	0.0	293.0	16.1	2.2
Limits:		NA	NA	29	100	205	10	320	17(a)	

(a) Carbon flow limit is a minimum value

* Note: The data reported herein represent 24 hour average data for all parameters. Emissions excursions that are measured on shorter time intervals (ie., 4-hour block averages for CO) do not correlate with the 24 hour average data reported above.

Table 11: Unit #3 Monthly Summary for Reportable Emissions Data

Group#-Channel#		G8-C35	G8-C28	G8-C8	G8-C4	G8-C12	G8-C34	G8-C37	G8-C40	G8-C39
Long Descrip.		U-3 Steam	U-3 Econ	U-3 Stack	U-3 Stack	U-3 Stack	U-3 Opaci	U-3 FF In	U-3 Carbo	U-3 Lime
Short Descrip.		SteamFl	SO_2ec	SO_2sc	COsc	NO_xsc	Opacity	FF InTemp	CarbInj	LimeFlow
Units		K#/Hr	ppmc	ppm	ppmc	ppmc	%	deg F	#/hr	gpm
Range		0-100	0-2000	0-500	0-4000	0-1000	0-100	100-500	0-50	0-20
Jul-12	AVG	86.9	22.0	1.0	26.0	161.0	0.2	297.0	16.1	2.8
	Max	89.2	33.0	2.0	38.0	162.0	0.8	299.0	16.8	3.3
	Min	81.8	12.0	0.0	19.0	159.0	0.0	295.0	16.0	2.6
Aug-12	AVG	87.5	19.0	0.0	30.0	161.0	0.2	296.0	16.1	2.8
	Max	90.3	33.0	2.0	39.0	187.0	0.5	299.0	16.5	3.2
	Min	83.9	9.0	0.0	21.0	155.0	0.0	290.0	16.0	2.5
Sep-12	AVG	89.4	49.0	1.0	29.0	165.0	0.5	296.0	16.5	2.7
	Max	92.9	105.0	3.0	46.0	181.0	0.8	296.0	19.3	3.1
	Min	77.6	18.0	0.0	19.0	159.0	0.0	290.0	16.0	2.2
Quarter Average		87.9	30.0	0.7	28.3	162.3	0.3	296.3	16.2	2.8
Quarter Max Value		92.9	105.0	3.0	46.0	187.0	0.8	299.0	19.3	3.3
Quarter Min Value		77.6	9.0	0.0	19.0	155.0	0.0	290.0	16.0	2.2
Limits:		NA	NA	29	100	205	10	320	16(a)	

(a) Carbon flow limit is a minimum value

* Note: The data reported herein represent 24 hour average data for all parameters. Emissions excursions that are measured on shorter time intervals (ie., 4-hour block averages for CO) do not correlate with the 24 hour average data reported above.

APPENDIX B
SITE VISIT PHOTOS

Figure 1: Extension of the Ferrous Recovery Pan

Figure 2: Tipping Floor – General View

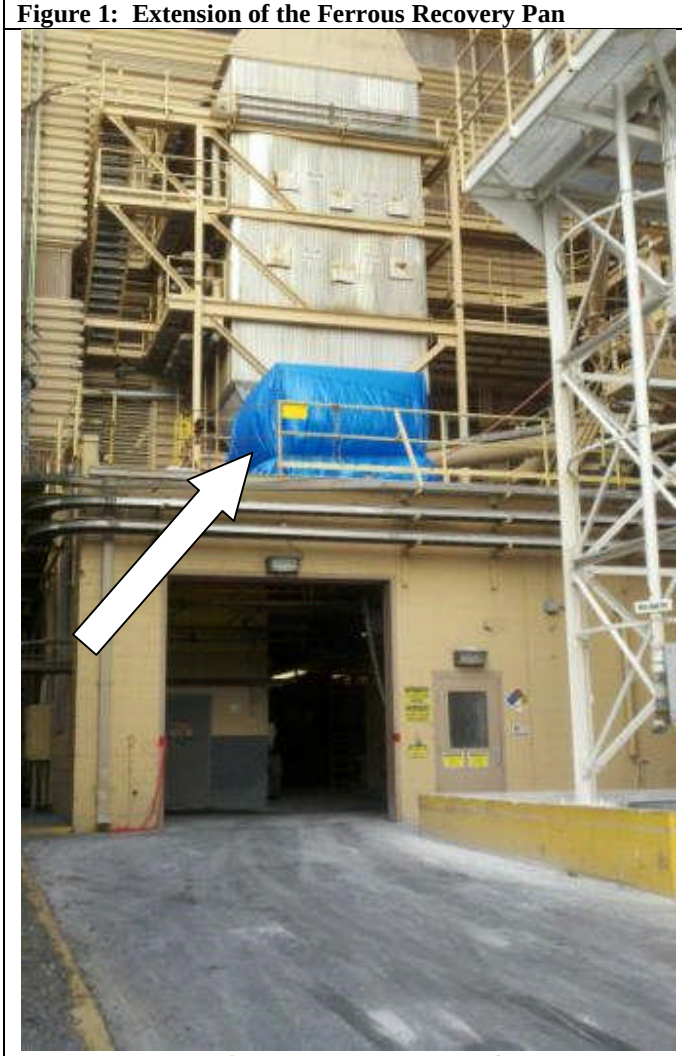


Figure 3: New roof membranes in storage for water treatment area roof

Figure 4: Turbine Generator No. 1

Figure 5: Metal Roll-Offs

Figure 6: Firing Aisle

Figure 7: Ash Trailers

Figure 8: Forced Draft Fan and Steam Coil Air Heater

Figure 9: CEM Enclosure and Driveway

Figure 10: Cooling Tower Area

Figure 11: Ash Truck and Metal Roll-off

Figure 12: SDA Hopper

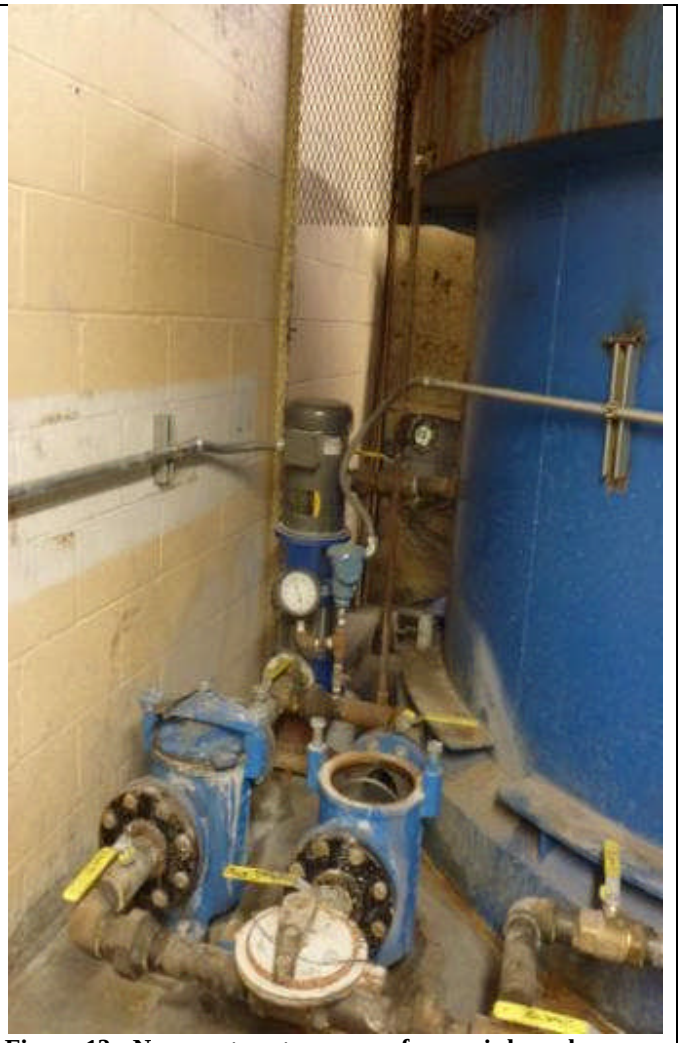


Figure 13: New wastewater pumps for semi-dry ash system

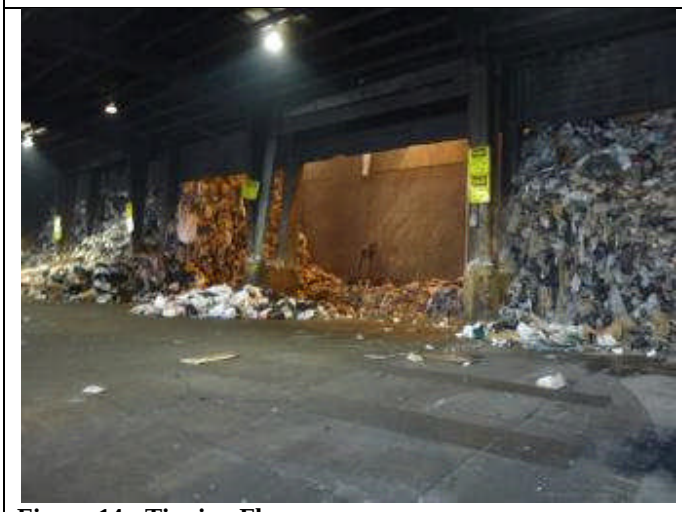


Figure 14: Tipping Floor

Figure 15: Inconel Wound Tubes to be Installed during Boiler No. 3 Outage