

Alexandria Arlington Resource Recovery Facility

Fiscal Year 2017
First Quarter Operations Report

November 2016



Prepared by:
HDR Engineering, Inc.
5426 Bay Center Drive, Suite 400
Tampa, Florida 33609-3444



Table of Contents

Section No.	Page No.
1.0 PURPOSE OF REPORT	4
2.0 EXECUTIVE SUMMARY	4
3.0 FACILITY INSPECTION AND RECORDS REVIEW	5
4.0 FACILITY PERFORMANCE	9
4.1 Utility and Reagent Consumptions	23
4.2 Safety & Environmental Training	24
5.0 FACILITY MAINTENANCE	25
5.1 Availability	26
5.2 Downtime Summary	28
5.3 Facility Housekeeping	29
6.0 ENVIRONMENTAL	30
6.1 Nitrogen Oxide Emissions	30
6.2 Sulfur Dioxide Emissions	30
6.3 Carbon Monoxide Emissions	30
6.4 Opacity	31
6.5 Daily Emissions Data	31
6.6 Ash System Compliance	31
APPENDIX A FACILITY CEMS DATA	34
APPENDIX B PHOTOS	38

Front Cover Photos

Top: General Facility Photo from Across Eisenhower Avenue

Middle: Cooling Towers – photo from SDA Penthouse

Bottom: New Access Platform to Induced Draft Fans

List of Tables

Table No.	Page No.
Table 1: Summary of Inspection Report Deficiencies	7
Table 2: Quarterly Performance Summaries	15
Table 3: Waste Delivery Classification	17
Table 4: Facility Utility and Reagent Consumptions	23
Table 5: Quarterly Facility Unit Availabilities	27
Table 6: Boiler Downtime – Q1FY17	28
Table 7: Turbine Generator Downtime – Q1FY17	28
Table 8: Facility Housekeeping Ratings – August 2016	29
Table 9: Comparison of Statistical Results and Regulatory Thresholds for Metal Analytes	32
Table 10: Unit #1 Monthly Summary for Reportable Emissions Data	35
Table 11: Unit #2 Monthly Summary for Reportable Emissions Data	36
Table 12: Unit #3 Monthly Summary for Reportable Emissions Data	37

List of Charts

Chart No.	Page No.
Chart 1: Tons of Waste Processed	9
Chart 2: Tons of Ash Produced per Ton of Waste Processed	10
Chart 3: Ferrous Recovery Rate	11
Chart 4: Steam Production	12
Chart 5: 12-Month Rolling Steam Production	13
Chart 6: Steam Production Rate	14
Chart 7: Calculated Waste Heating Value	15
Chart 8: Cumulative Total Waste Delivery	18
Chart 9: Gross Electrical Generation	18
Chart 10: Gross Conversion Rate	19
Chart 11: Net Conversion Rate	20
Chart 12: Net Conversion Rate	20
Chart 13: Gross Turbine Generator Conversion Rate	21
Chart 14: Net Turbine Generator Conversion Rate	22
Chart 15: Ash Toxicity Characteristic Leaching Procedure (TCLP) Results	32
Chart 16: Quarterly Ash Test Results	33

List of Figures

Figure No.	Page No.
Figure 1: Safety Cage on Rotary Sootblower No. 27 detached and gears exposed – New Deficiency	39
Figure 2: Underside of grating deteriorated, upper elevations of all three economizers – New Deficiency	39
Figure 3: Hole in wall where forklift is typically parked, northwest corner of Main Vibrating Conveyor – New Deficiency	39
Figure 4: Emergency eye wash station is leaking, just off CEMS Enclosure – New Deficiency	39
Figure 5: Turbine Generator No. 2	39
Figure 6: Ash Trailer Canopy	39
Figure 7: Citizen's Drop-off Roll-off	40
Figure 8: Island removed at Facility roadway approaching scales	40
Figure 9: General Facility Photo – from across Eisenhower Avenue	40
Figure 10: General Facility Photo- from southwest of Facility	40
Figure 11: Facility Roadway – facing APC Area and Cooling Towers	40
Figure 12: Tipping Floor Entrance and Supplemental Waste Load-out Dock	40
Figure 13: Mixing Ash Samples for TCLP Ash Testing	41
Figure 14: Refuse Pit – photo from Tipping Floor Entrance	41
Figure 15: Refuse pit – photo from north side of Charging Floor	41
Figure 16: New decking around Economizers	41
Figure 17: New platforms installed around Induced Draft Fans	41
Figure 18: Main Vibrating Ash Conveyor	41
Figure 19: General Facility Photo – east of Ash Trailer Canopy	42
Figure 20: Ammonia Tank	42
Figure 21: Dolomitic Lime Silo – photo from east side of Cooling Towers	42
Figure 22: Front of Facility and Parking Area	42
Figure 23: General Facility Photo – from northeast corner of property	42
Figure 24: Scalehouse and Scales	42

Definition of Abbreviations & Acronyms

<u>Abbreviation/Acronym</u>	<u>Definition</u>
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
ECOM	Emergency Communications
Feb	February
FMG	Facility Monitoring Group
FY	Fiscal Year
gal	Gallon
GAT	Guaranteed Annual Tonnage
HCl	Hydrochloric (Hydrogen Chlorides)
HDR	HDR Engineering Inc
HHV	Estimated Waste Heating Value (Btu/lb)
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
MW hr	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 Operations Report – Fiscal Year 2017

1.0 Purpose of Report

HDR Engineering, Inc. (HDR) was authorized by the Facility Monitoring Group (FMG) to conduct quarterly inspections and provide quarterly reports regarding the operation and maintenance of the Covanta Alexandria/Arlington Waste-to-Energy Facility (Facility) for the 2016 calendar year. This report is prepared for the first quarter of the 2017 fiscal year and summarizes Facility operations between July 1, 2016 and September 30, 2016. This report identifies the fiscal year beginning on July 1, 2016 as FY17 and the quarter beginning on July 1, 2016 as Q1FY17.

This report is based upon HDR's experience 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 owner and operator.

2.0 Executive Summary

CAAI operated the Facility in an acceptable manner and in accordance with established waste-to-energy industry practices during Q1FY17. The operation of the Facility, maintenance, safety, and overall cleanliness continue to be above average. Environmental performance was excellent with no reportable environmental excursions throughout the quarter. There was one (1) OSHA recordable safety incident during the quarter. CAAI reported that the incident occurred on September 19, 2016 and was a result of an operator tripping over caution tape causing a broken leg.

During Q1FY17, the Facility experienced three (3) instances of unscheduled downtime for the boilers totaling 32.6 hours, and no unscheduled downtime for turbine generators. There were three (3) scheduled boiler outages during Q1FY17 totaling 165.3 hours. Two of the three scheduled outages are

considered “mini-outages” for cleaning and minor repairs; while the Boiler No. 2 outage is considered a major outage with more significant work performed. During the quarter, the boilers experienced three (3) instances of standby time totaling 88.4 hours, and the turbine generators experienced three (3) instances of standby time totaling 177.3 hours. Note that standby time isn’t factored into overall availability. A detailed listing of downtime is provided in Section 5.2 of this report.

Average waste processed during the quarter was 963 tons per day, or 98.8% of nominal facility capacity. Waste deliveries averaged 966 tons per day, which is 0.3% higher than the burn rate. The capacity utilization of 98.8% compares 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 slightly increased (0.1%) from the corresponding quarter in FY16; steam production slightly decreased (0.4%), and electricity generated (gross) increased (1.0%) from the corresponding quarter in FY16. The slight decrease in steam generation is attributable to CAAI throttling the boilers back to stay below the steam production limit. Note that less downtime (43.2 fewer hours) was experienced by the boilers and the waste heating value increased 1.6%, both of which would positively impact steam generation. The Facility generated more electricity (gross) in Q1FY17 as compared to Q1FY16 despite lower steam generation, and more downtime (102.3 additional hours) experienced by the turbine generators.

3.0 Facility Inspection and Records Review

In August 2016, HDR met with the Facility management and other plant personnel to discuss Facility operations, and maintenance, acquire data and

reports, perform an independent visual inspection of the operating Facility, photograph areas of interest, and perform a review of recent Facility activity. This visit was coordinated with the scheduled FMG meeting. At the time of the inspection, HDR reviewed CAAI records, discussed performance issues with CAAI staff, and provided a verbal report and performance statistics at the August 2016 FMG meeting. 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 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.

Note that HDR inspections are generally performed while equipment is operating, and are not intended to address the internal condition, performance or life expectancy of mechanical, electrical and electronic equipment and structures. HDR inspections are only performed quarterly, generally representing findings on the day of the inspection. CAAI is responsible, without limitation, for operations, maintenance, environmental performance and safety and should not rely on HDR observations or inspection reports which are overviews of Facility external conditions only.

Table 1: Summary of Inspection 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.	Inspection Report Deficiencies	Issue Reported	Priority*	HDR Recommendation	Status	Open / Closed
1	Corrosion on ceiling panels in Turbine Generator Enclosure	August 2014	C	Sand, Prime, Paint and Preserve, and replace deteriorated panels as necessary	HDR observed the corroded/deteriorated sections had been primed, but no panels were replaced. CAAI reports that it plans to replace panels in 1 to 2 years.	Open
2	Corrosion on ceiling panels in Turbine Generator Enclosure (Alternate Location)	August 2014	C	Sand, Prime, Paint and Preserve, and replace deteriorated panels as necessary	HDR observed the corroded/deteriorated sections had been primed, but no panels were replaced. CAAI reports that it plans to replace panels in 1 to 2 years.	Open
3	Deteriorated purlin east wall in Tipping Floor Enclosure	November 2014	C	Replace deteriorated purlin	CAAI reports that it will replace sections of the east wall of the Tipping Floor Enclosure as a 2016 Budget Item.	Open
4	Damaged curbing northeast corner of Facility near Citizen's Drop-off	November 2014	C	Repair curbing	Complete	Closed
5	Damaged curbing west side of Cooling Towers	November 2014	C	Repair curbing	Complete	Closed
6	Damaged curbing near Ash Trailer Parking Area	November 2014	C	Repair curbing	Complete	Closed
7	Panels on east wall in Charging Floor damaged	February 2015	C	Replace damaged wall panels	Status Unchanged	Open
8	Induced Draft Fan No. 1 Lagging deteriorated, west side of CEMS Enclosure	May 2015	C	Replace deteriorated Induced Draft Fan Lagging	Status Unchanged	Open
9	Pot hole, southeast corner of Ash Trailer Canopy	August 2015	C	Repair road surface	Status Unchanged	Open
10	Ash Trailers (typical of 3) have a damaged top pressure-treated wood rail (2"x6")	November 2015	C	Contact ash hauling company and request repairs be made to ash trailers	Complete	Closed

Item No.	Inspection Report Deficiencies	Issue Reported	Priority*	HDR Recommendation	Status	Open / Closed
11	Holes in Ash Trailer (License Plate: 18 5294C) near ladder	February 2016	C	Report to ash hauling company and assure proper repairs are made	Status Unchanged	Open
12	Vertical posts on Cooling Tower Stairs split (typical of 5)	February 2016	A	Replace vertical posts	Complete	Closed
13	Curbing damaged (Typical of 2 locations), along Truck Entrance Road	February 2016	C	Replace curbing	Complete	Closed
14	Chemical storage container deteriorated, north of Main Vibrating Pan, at ground elevation	February 2016	A	Replace storage container	During the August 2016 FMG Meeting, CAAI indicated it planned to purchase a new storage container and dispose of the deteriorated container.	Open
15	Siding and angle deteriorated; west side of SDA No. 1 Penthouse	May 2016	C	Replace deteriorated siding and angle and conduct proper painting preservation measures.	Complete	Closed
16	Siding angle deteriorated; east side of SDA No. 3 Penthouse	May 2016	C	Replace deteriorated siding angle and conduct proper painting preservation measures.	Complete	Closed
17	Roof panels of Tipping Enclosure unfastened; overhead entrance	May 2016	C	Fasten roof panels	Complete	Closed
18	Curbing damaged at Tipping Floor Exit	May 2016	C	Replace curbing	Complete	Closed
19	Safety Cage on Rotary Sootblower No. 27 detached and gears exposed – See Figure 1 (Appendix B)	August 2016	A	Adjust rotary sootblower cage to shield exposed gears	Status Unchanged	Open
20	Underside of grating deteriorated, upper elevations of all three economizers – See Figure 2 (Appendix B)	August 2016	C	Replace economizer grating in upper elevations	Status Unchanged	Open
21	Hole in wall where forklift is typically parked, northwest corner of Main Vibrating Conveyor – See Figure 3 (Appendix B)	August 2016	C	Patch hole in wall	Status Unchanged	Open
22	Emergency eye wash station is leaking, just off CEMS Enclosure – See Figure 4 (Appendix B)	August 2016	C	Repair leaking emergency eye wash station	Status Unchanged	Open

4.0 Facility Performance

Monthly operating data provided by CAAI indicates that 88,622 tons of MSW were processed during Q1FY17, and a total of 88,885 tons of MSW including 1,880 tons of Special Handling Waste were received. Total ash production during the quarter was 18,307 tons, which represents 20.7% of the waste processed by weight. The average uncorrected steam production rate for Q1FY17 was 3.03 tons_{steam}/ton_{waste}, which is lower (0.4%) than the corresponding quarter in FY16. The decrease in this metric does not correlate with the 1.6% increase in the average waste heating value (HHV) calculated by CAAI, and is indicative of poorer boiler performance or some other currently unidentified cause. Prior to issuing the last quarterly report, CLI suggested that steam leaks are a root cause for the discrepancy in this metric. HDR did not observe any steam leaks during the August Facility inspections. This trend continues to be unexplained.

Chart 1: Tons of Waste Processed

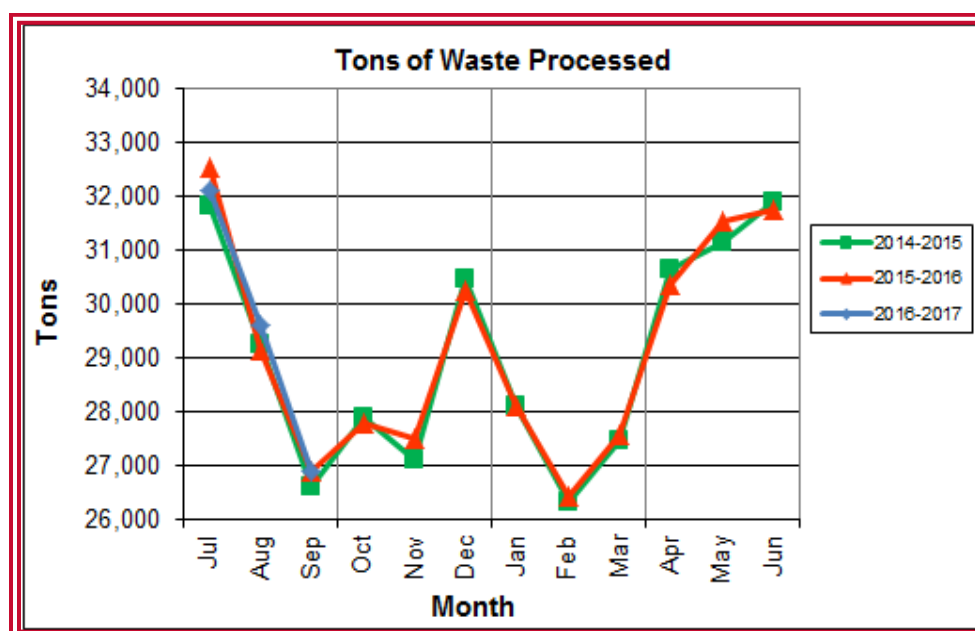


Chart 1 illustrates that Q1FY17 waste processed was ever so slightly higher (0.1%) than the corresponding quarter, Q1FY16.

CAAI reported that 473 tipping floor/MSW internal inspections were conducted during the quarter and six (6) notices of violation (NOVs) were issued to haulers for the following issues:

- July 2016 – Three (3) NOVs were issued for:
 - Two (2) NOVs for concrete in the load
 - One (1) NOV for sheet rock in the load
- August 2016 – One (1) NOV was issued for:
 - Excessive metal in the load
- September 2016 – Two (2) NOVs were issued for:
 - Dumping without a ticket

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

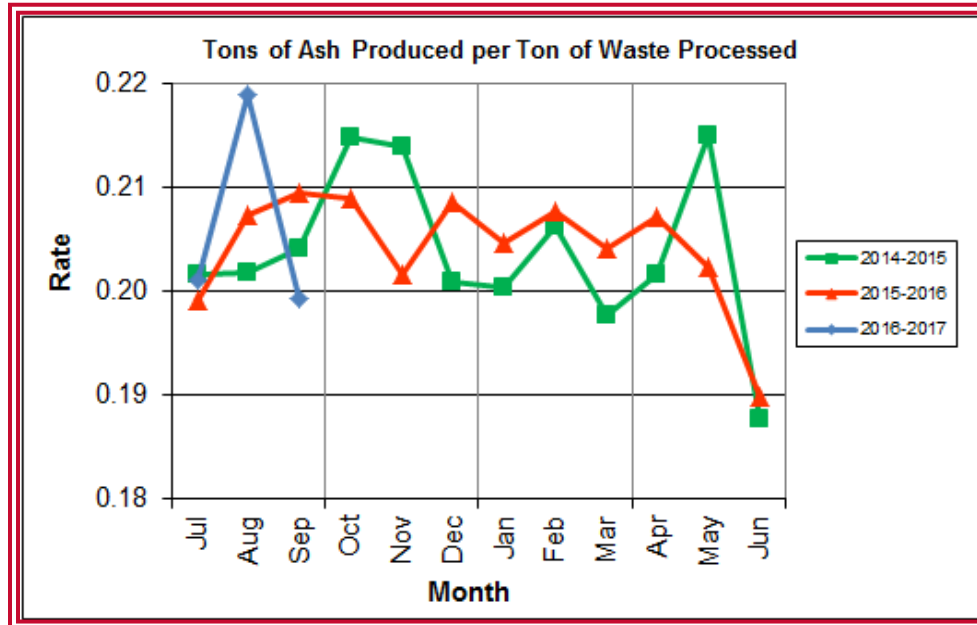


Chart 2 illustrates that the average ash production rate in Q1FY17 was higher (0.2%) at 20.7% of processed waste, compared to the corresponding quarter in FY16 when the rate was 20.5%. Ash production remains in the 20.0% to 21.0% range, as a result of the installation of the “semi-dry” ash discharger spray system in May 2012, and represents less moisture in the ash residue shipped to disposal.

Chart 3: Ferrous Recovery Rate

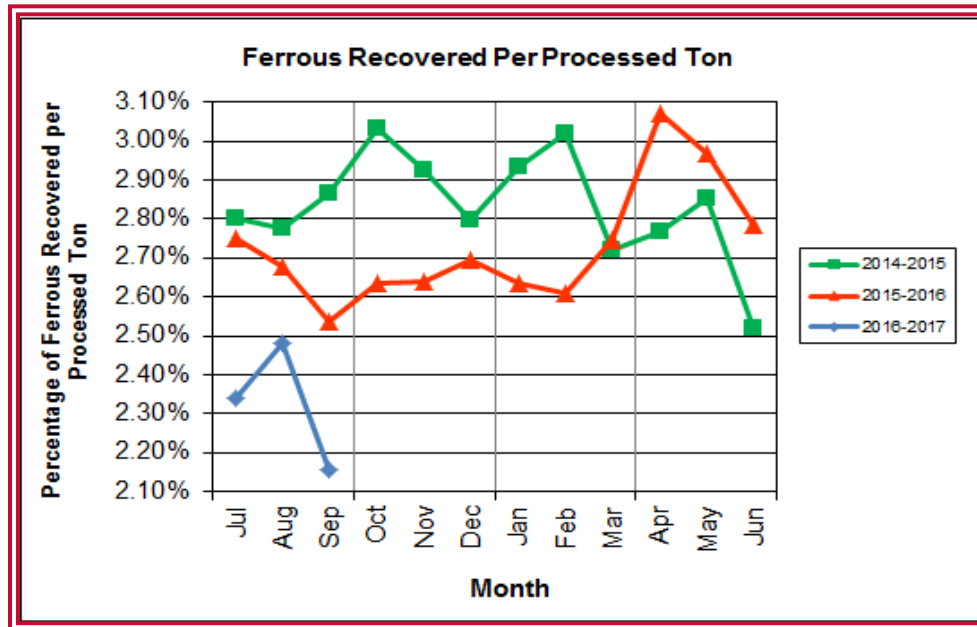
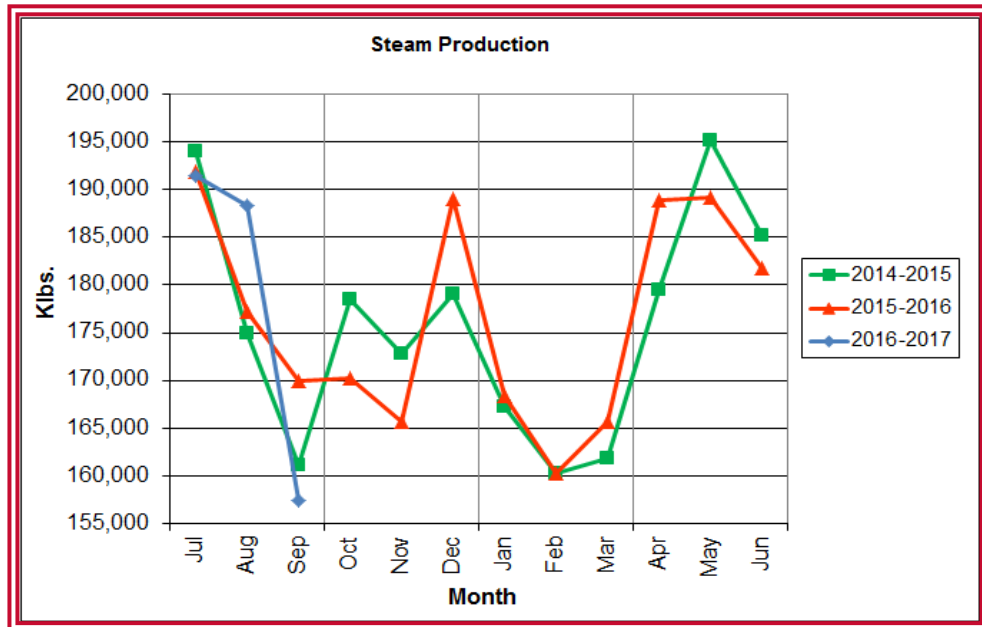


Chart 3 depicts the monthly ferrous metal recovery rate as a percentage of processed MSW tonnage. In Q1FY17, 2,066 tons of ferrous metals were recovered, which is 12.4% lower than the corresponding quarter in FY16 and equivalent to 2.3% of processed waste. CAAI indicated that it replaced an end section of the vibrating pan during Q3FY16 which was worn due to wear from material getting caught between the pan and magnet. The positive impacts of the end section pan replacement were noticed in Q4FY16, but have since declined significantly in Q1FY17. CAAI attributes the significant decline to an increase in recycling rates resulting in less metal in the MSW. CAAI also indicated that it replaced the last 8" of the main vibrating ash pan at the magnet in order to address declining ferrous metal recovery.

Chart 4: Steam Production



In Chart 4, the total steam production for Q1FY17 was 537,123 klbs., and lower (0.4%) than the corresponding quarter in FY16. The decrease in steam generation is attributable to CAAI throttling back the boilers to stay below the steam production limit each month.

Chart 5: 12-Month Rolling Steam Production

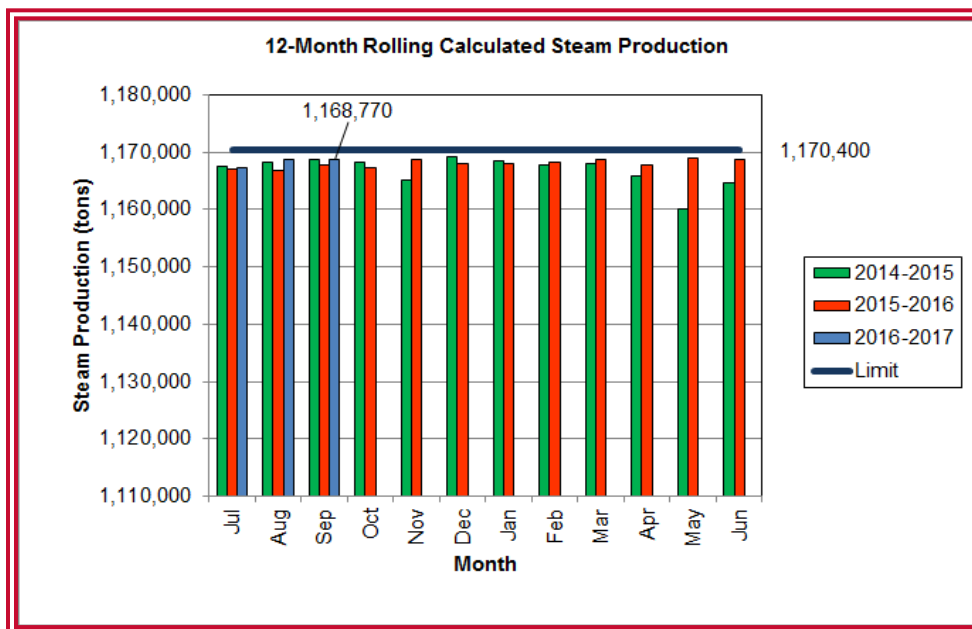
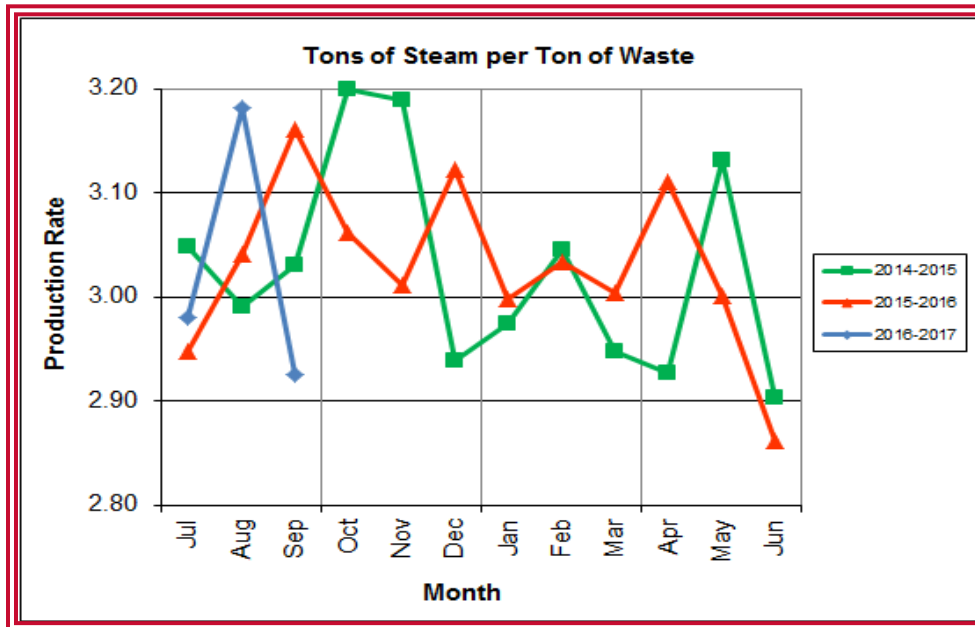


Chart 5 depicts the 12-month rolling steam production total for the period ending in September 2016. According to the Title V permit, the annual steam production for the Facility shall not exceed 1,170,400 tons on the basis of an average value of 3.34 lbs of steam per lb of MSW processed, calculated 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 Q1FY17. The 12-month rolling total for steam production ending in September 2016 was 1,168,770 tons which is 99.9% of the limit. Chart 5 clearly shows that Facility throughput, and in turn, steam and electricity production are being throttled to stay ever so slightly below the steam production limit nearly every month.

Chart 6: Steam Production Rate



In Chart 6, the conversion of raw waste tonnages into “reference tons” is another way of analyzing 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 Q1FY17, this metric tracked lower (2.3%) at 2.8 tons_{steam/tonref}, compared to the corresponding quarter in FY16. This trend should continue to be monitored to determine if it is indicative of poorer boiler performance, an aberration during scheduled outage periods, or some other currently unexplained cause.

Chart 7: Calculated Waste Heating Value

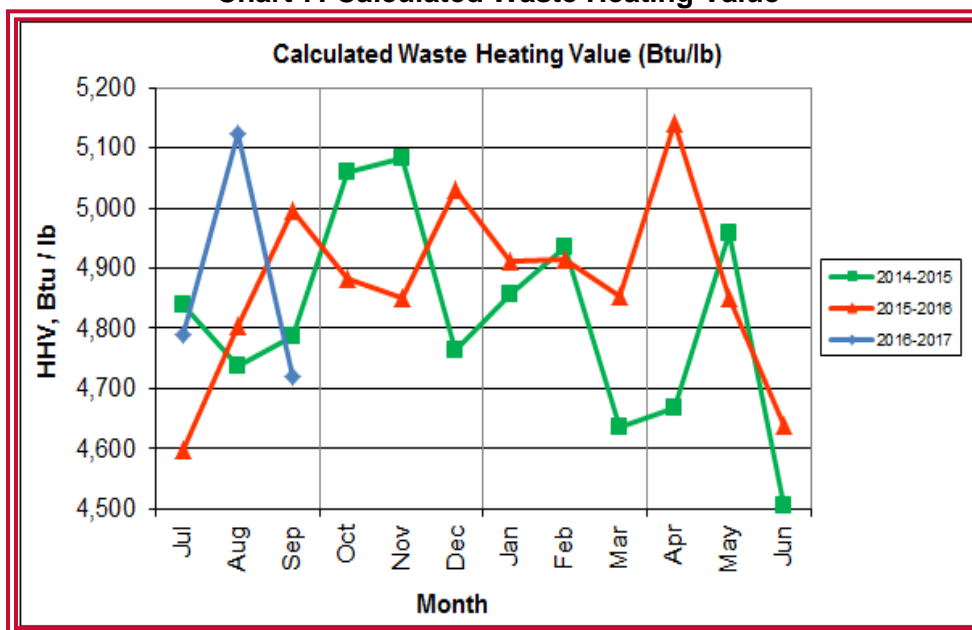


Chart 7 illustrates that Q1FY17 calculated average waste heating value was higher (1.6%) at 4,878 Btu/lb than the corresponding quarter Q1FY16, which averaged 4,800 Btu/lb.

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 (MWhr)
Q1FY15	Quarterly Totals	87,659	0	17,751	745	2,465	530,025	36,806
	July -14	31,818	0	6,417	141	891	193,977	13,779
	August -14	29,247	0	5,904	275	812	174,887	12,018
	September -14	26,594	0	5,430	329	762	161,161	11,009
Q1FY16	Quarterly Totals	88,572	0	18,162	1,874	2,357	539,103	37,062
	July -15	32,537	0	6,482	676	895	191,850	13,358
	August -15	29,150	0	6,047	427	780	177,256	12,048
	September -15	26,885	0	5,633	771	682	169,997	11,656
Q1FY17	Quarterly Totals	88,622	0	18,307	1,880	2,066	537,123	37,367
	July -16	32,121	0	6,459	504	752	191,425	13,363
	August -16	29,593	0	6,482	642	734	188,295	13,092
	September -16	26,908	0	5,366	734	580	157,403	10,912
FY17 YTD Totals		88,622	0	18,307	1,880	2,066	537,123	37,367
FY16 Totals		349,881	0	71,401	8,567	9,571	2,118,125	148,529
FY15 Totals		348,686	0	71,019	5,413	9,864	2,109,442	145,085

Table 2 presents the production data provided to HDR by CAAI for Q1FY17 on both a monthly and quarterly basis. For purposes of comparison, data for

Q1FY15 and Q1FY16 are also shown, as well as FY15, FY16 and FY17 YTD totals.

In comparing quarterly totals, the data shows:

- Slightly more waste was processed in Q1FY17 than Q1FY16 and Q1FY15
- Less steam was generated in Q1FY17 than Q1FY16 and more than Q1FY15
- More electricity was generated in Q1FY17 than Q1FY16 and Q1FY15
- More supplemental waste was received in Q1FY17 than Q1FY16 and significantly more than in Q1FY15.

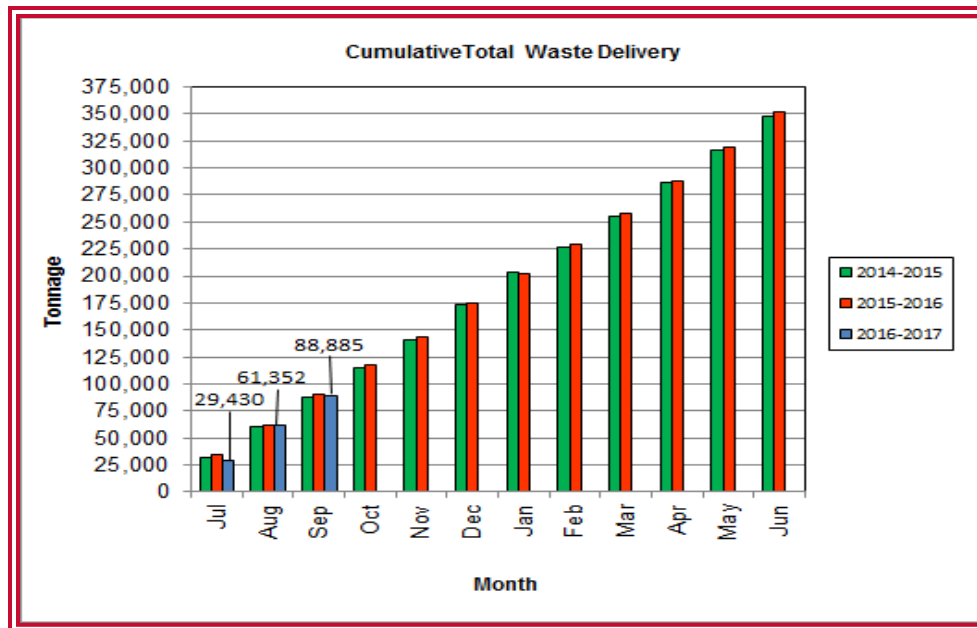
Please note that the total steam generation figures presented in Table 2 do not correlate with the annual steam production limit from the Facility Permit; such limits apply on a 12-month rolling average monthly basis, and not a fiscal year basis. It is also worth noting that the quantity of waste processed during Q1FY17 continues to be limited by the steam production permit restrictions (refer to Chart 5).

Table 3: Waste Delivery Classification

		<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Totals</u>	<u>% of Total</u>
FY13	Jurisdiction Waste	19,413	18,357	16,632	17,625	18,838	16,195	-	-	-	-	-	-	107,058	30.76%
	Spot Waste tons	10,516	11,326	10,610	10,317	9,330	9,558	-	-	-	-	-	-	61,656	17.72%
	City Waste	-	-	-	-	-	-	1,683 ⁽¹⁾	1,287	1,444	2,382	2,286	1,919	11,000	3.16%
	County Waste	-	-	-	-	-	-	2,442 ⁽¹⁾	2,100	2,372	3,381	3,932	3,309	17,536	5.04%
	Municipal Solid Waste	-	-	-	-	-	-	25,019 ⁽¹⁾	23,637	21,661	27,066	25,794	24,930	148,107	42.56%
	Supplemental Waste	151	11	80	25	234	405	363	365	76	403	281	271	2,665	0.77%
	MSW Totals	29,928	29,683	27,241	27,942	28,167	25,753	29,507	27,388	25,552	33,231	32,293	30,429	348,022	100.00%
FY14		<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Totals</u>	<u>% of Total</u>
	City Waste	2,065	1,693	1,702	1,924	1,566	1,780	1,529	1,231	1,556	2,256	2,203	1,883	21,389	6.11%
	County Waste	3,459	3,079	2,784	3,091	2,707	2,802	2,568	1,957	2,272	3,326	3,987	3,387	35,419	10.12%
	Municipal Solid Waste	26,167	23,604	22,034	23,354	21,879	25,531	23,869	22,523	23,198	25,414	27,206	24,812	289,590	82.75%
	Supplemental Waste	546	676	248	410	188	268	275	192	231	253	151	110	3,548	1.01%
	MSW Totals	32,237	29,053	26,768	28,779	26,340	30,380	28,241	25,903	27,256	31,249	33,546	30,193	349,946	100.00%
FY15		<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Totals</u>	<u>% of Total</u>
	City Waste	1,814	1,497	1,699	1,737	1,518	1,770	1,411	1,209	1,648	2,155	2,059	2,045	20,562	5.91%
	County Waste	3,297	2,868	2,973	3,095	2,508	2,852	2,358	1,833	2,411	3,269	3,652	3,572	34,687	9.96%
	Municipal Solid Waste	26,661	24,466	21,887	21,241	21,678	27,906	24,611	20,915	24,094	25,189	23,126	25,667	287,442	82.57%
	Supplemental Waste	141	275	329	521	764	529	389	351	272	613	531	698	5,413	1.55%
	MSW Totals	31,913	29,106	26,888	26,595	26,468	33,057	28,769	24,308	28,424	31,225	29,369	31,982	348,105	100.00%
FY16		<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Totals</u>	<u>% of Total</u>
	City Waste	1,960	1,563	1,723	1,645	1,685	1,872	1,147	1,619	1,811	2,024	1,950	2,220	21,219	6.03%
	County Waste	3,627	2,880	2,832	2,869	2,682	2,891	2,025	2,389	2,694	2,406	2,508	2,661	32,465	9.22%
	Municipal Solid Waste	27,933	22,999	22,552	22,850	20,679	26,138	22,632	22,781	22,935	24,388	26,561	27,355	289,801	82.32%
	Supplemental Waste	676	427	771	684	676	787	642	850	792	996	605	661	8,565	2.43%
	MSW Totals	34,196	27,869	27,878	28,047	25,722	31,687	26,446	27,639	28,232	29,814	31,623	32,896	352,049	100.00%
FY17		<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Totals</u>	<u>% of Total</u>
	City Waste	1,678	1,836	1,668										5,181	5.83%
	County Waste	2,386	2,469	2,370										7,225	8.13%
	Municipal Solid Waste	24,862	26,976	22,760										74,598	83.93%
	Supplemental Waste	504	642	734										1,880	2.12%
	MSW Totals	29,430	31,922	27,532										88,885	100.00%

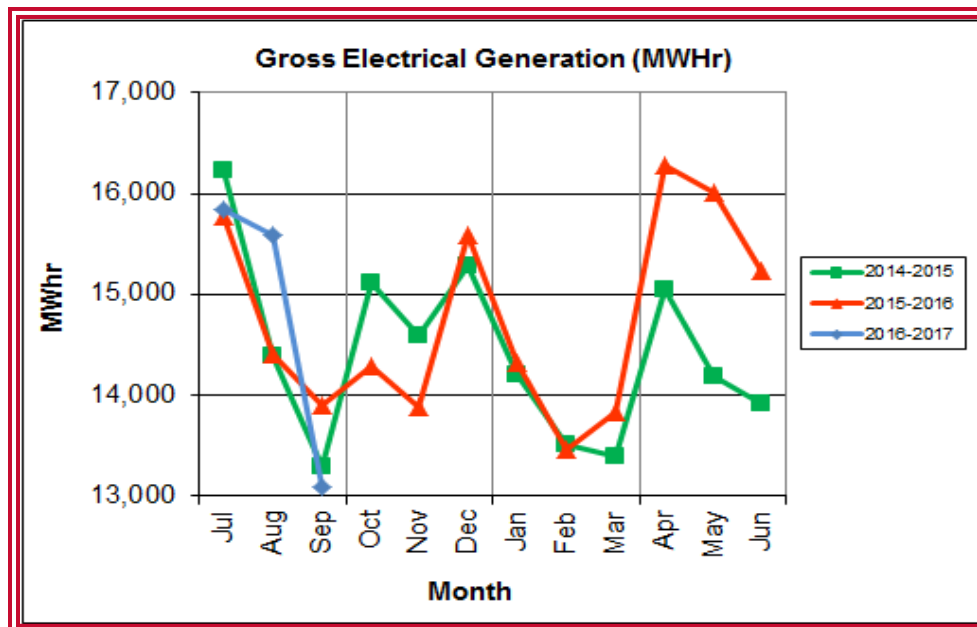
Note (1): Beginning January 2013, the method in which waste was classified was modified as compared to prior periods due to change in contractual obligations and plant ownership

Chart 8: Cumulative Total Waste Delivery



As depicted in Table 3 and Chart 8, for the quarter ending in September 2016; cumulative total waste delivery was 1.2% less compared to the same period in FY16.

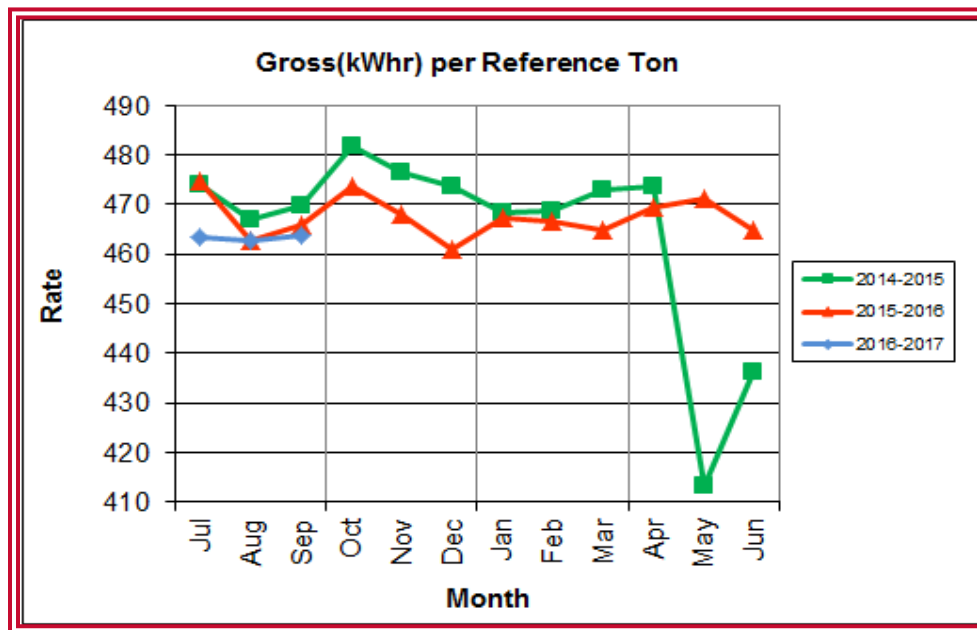
Chart 9: Gross Electrical Generation



During Q1FY17, the Facility generated 44,524 MWhrs (gross) of electricity compared to Q1FY16 generation of 44,083 MWhrs (gross), a 1.0% increase.

The Facility generated more electricity (gross) in Q1FY17 as compared to Q1FY16 despite lower steam generation, and more downtime (102.3 additional hours) experienced by the turbine generators. Note that the sharp spikes depicted in Chart Nos. 10 through 14 for the months of May and June 2015 are a result of significant downtime (424.7 hours) experienced by Turbine Generator No. 1 to repair an exciter failure.

Chart 10: Gross Conversion Rate



As shown in Chart 10, the average gross electrical generation per reference ton of refuse processed during Q1FY17 was 463 kWhr, which is 1.0% lower than the corresponding quarter in FY16, and is attributable to more downtime experienced by the turbine generators during the quarter when compared to the corresponding quarter in FY16. Since this calculated value uses reference or normalized tonnages of waste, it should cancel the effect of MSW heating value (Btu content) variability.

Chart 11: Net Conversion Rate

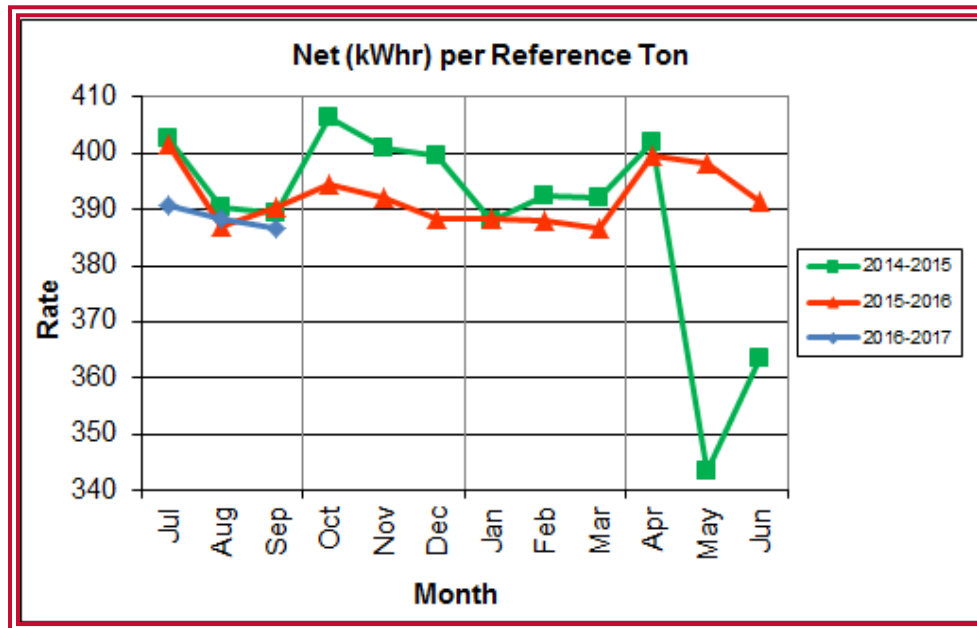


Chart 11 depicts the normalized net power (gross minus in-house usage) generation history. In Q1FY17, the average net electrical generation per reference ton was 389 kWhr, which is 1.1% lower than the corresponding quarter in FY16, and again, attributable to more downtime experienced by the Turbine Generators during the quarter, when compared to the corresponding quarter last fiscal year.

Chart 12: Net Conversion Rate

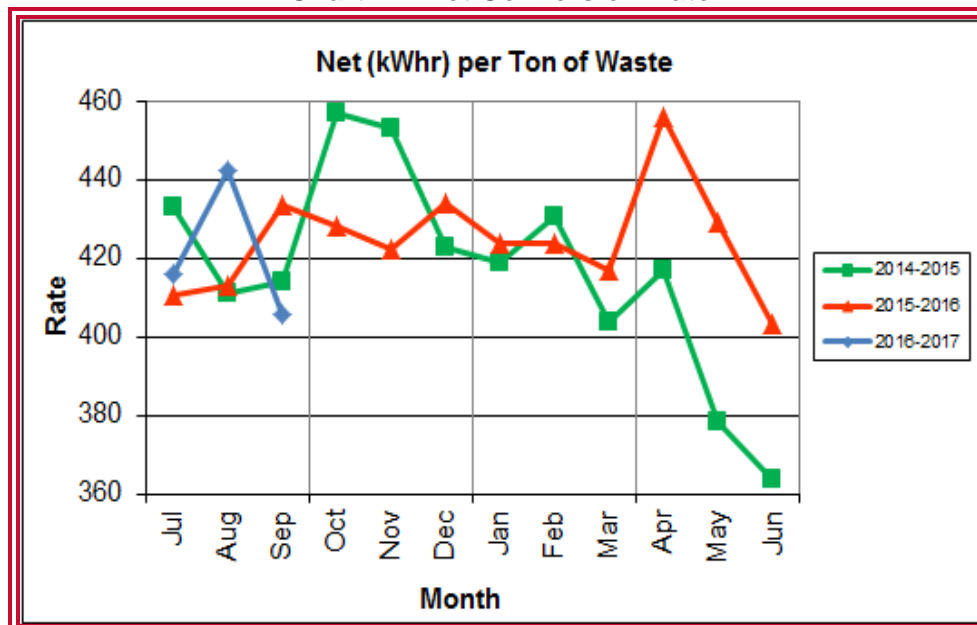
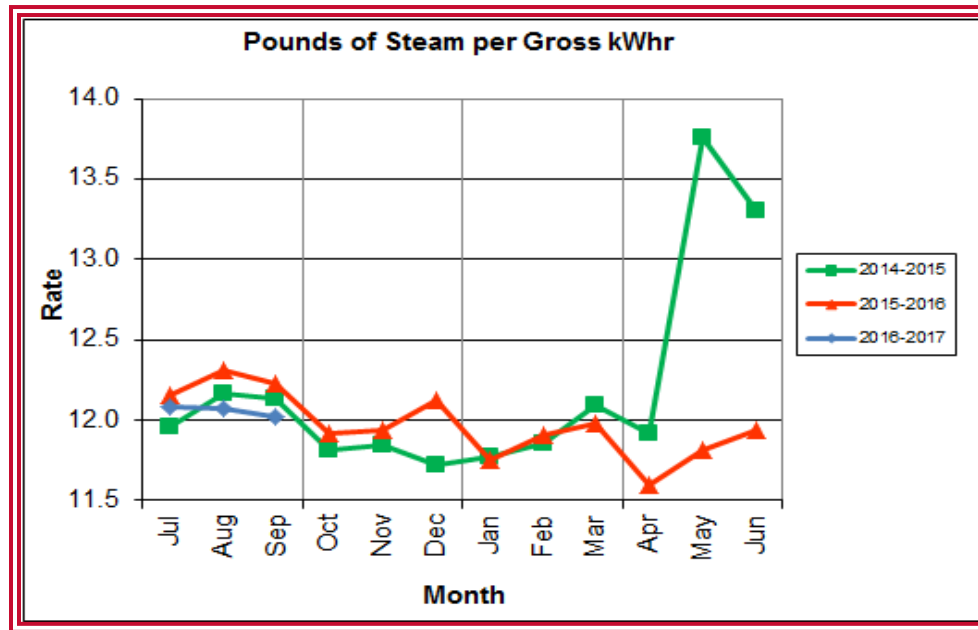


Chart 12 depicts the net power generation per processed ton. The net electrical generation per processed ton in Q1FY17 was 421 kWhr, which is 0.5% higher than the corresponding quarter in FY16, and attributable to higher (1.6%) calculated waste heating value, offset by more downtime experienced by the turbine generators when compared to the corresponding quarter last fiscal year.

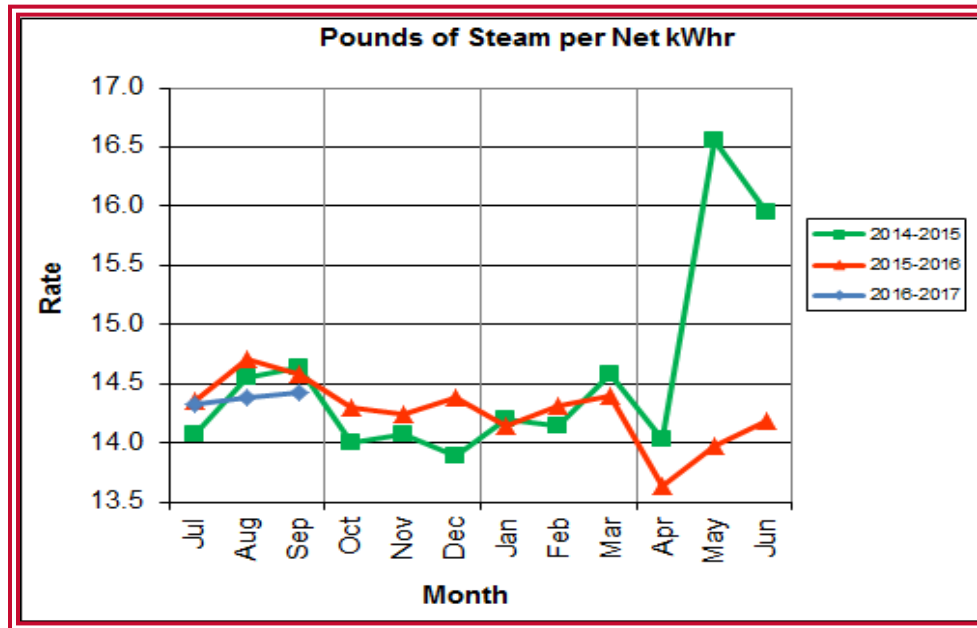
Chart 13: Gross Turbine Generator Conversion Rate



Charts 13 and 14 illustrate the quantities of steam required to generate one (1) 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 Q1FY17 the average lbs of steam consumed per gross kWhr generated was 12.1, which is 1.4% lower (improved) than the corresponding quarter Q1FY16. A factor that negatively impacts this metric is Turbine Generator No. 2 continues to operate with its Stage 9 blades removed from the rotor. CAI reported that during the Turbine Generator No. 2 overhaul in November 2013, some cracking was observed on the Stage 9 blades of the rotor, and the blading in that row was removed as a precautionary measure. CAI originally indicated that a new set of blades would be manufactured and installed during a Turbine Generator No. 2 Outage in 2016, but advised in May

2015, that the implementation of the replacement blades installation would be delayed, and did not provide a date for repair. The average lbs of steam consumed per net kWhr was 14.4, which is 1.2% lower (improved) than the corresponding quarter in FY16. The average steam temperature during the quarter was 685.1° F, which is 1.0% higher than the average steam temperature of the corresponding quarter last fiscal year and 14.9° F lower than design temperature of 700° F.

Chart 14: Net Turbine Generator Conversion Rate



4.1 Utility and Reagent Consumptions

Table 4: Facility Utility and Reagent Consumptions

Utility	Units	Q1FY17 Total	Q1FY16 Total	Q1FY17"Per Processed Ton" Consumption	Q1FY16"Per Processed Ton" Consumption
Purchased Power	MWhr	5,598	5,477	0.06	0.06
Fuel Oil	Gal.	21,430	10,510	0.24	0.12
Boiler Make-up	Gal.	1,641,000	2,066,000	18.52	23.33
Cooling Tower Make-up	Gal.	45,019,026	42,240,267	507.99	476.90
Pebble Lime	Lbs.	1,254,000	1,334,000	14.15	15.06
Ammonia	Lbs.	170,000	166,000	1.92	1.87
Carbon	Lbs.	92,000	102,000	1.04	1.15
Dolomitic Lime	Lbs.	170,000	202,800	1.92	2.29

Fuel oil usage during the quarter represents approximately 0.37% of the total heat input to the boilers, which compares favorably with industry averages, and slightly higher than the percentage of heat input in Q1FY16 which was 0.18%. Fuel oil is used to stabilize combustion of wet fuel, as well as during start-up and shut-down of the boilers for maintenance. Boiler makeup water usage during the quarter represents 2.5% of steam flow, which is lower than the boiler makeup in Q1FY16 which was 3.2%, and is acceptable. Pebble lime usage, at 1,254,000 lbs. is lower (6.0%) than the corresponding quarter last year, and the quarterly consumption rate of 14.2 lbs/ton is below historical levels (16-18 lbs/ton).

In comparing Q1FY17 to Q1FY16 on a per processed ton consumption basis:

- the purchased power consumption rate was 2.2% higher
- the total fuel oil consumption rate was 103.8% higher
- the boiler make-up water consumption rate was 20.6% lower
- the cooling tower make-up water consumption rate was 6.5% higher
- the total pebble lime consumption rate was 6.1% lower
- the ammonia consumption rate was 2.4% higher
- the carbon consumption rate was 9.9% lower
- the total dolomitic lime consumption rate was 16.2% lower

CAAI reported that the significant decrease in dolomitic lime usage is a result of lowering feed rate in recent months based on pH levels (average in-house pH of 9.0 during Q1FY17).

4.2 Safety & Environmental Training

The Facility experienced (1) OSHA recordable accident during the quarter. CAAI reported the incident occurred on September 19, 2016 and was a result of an operator tripping over caution tape causing a broken leg. Prior to the incident, the Facility operated 247 days without an OSHA recordable accident. During the quarter, Safety and Environmental training was conducted with themes as follows:

July 2016

- Safety:
 - Hot Work
 - Heat Stress
 - Safety Committee
 - Welding & Cutting
- Environmental:
 - Profiled Waste
 - Unauthorized Waste
 - Stack Testing

August 2016

- Safety:
 - Lock-Out-Tag-Out
 - Control of Hazardous Energy
 - Crane Boarding
 - Hopper Safety Systems
 - Social Norms
- Environmental:
 - Unauthorized Waste Training
 - Ash Generation
 - Treatment and Testing
 - Fugitive Ash

September 2016

- Safety:

- JOB Observations
- Accident Prevention Program
- Housekeeping
- Disposal of Potentially Contaminated Debris
- Medical Surveillance
- Environmental:
 - Water Balance
 - Conservation and Industrial Waste Water

5.0 Facility Maintenance

Throughout the quarter, significant routine and preventative maintenance was performed. HDR considers that the Facility is implementing an 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.

Beginning July 13, 2016 Boiler No. 1 experienced 24.1 hours of downtime for a scheduled cleaning outage. No significant outage maintenance items were highlighted by CAAI in the Monthly Report.

Beginning August 16, 2016 Boiler No. 3 experienced 25.0 hours of downtime for a scheduled cleaning outage. Some significant maintenance items completed during the outage are as follows:

- Repaired a crack on the north side of Boiler No. 3 Gen Bank Outlet Hopper
- Repair of No. 3 Mud Drum Blowdown Valve
- Repaired a leak on the Boiler No. 3 Feedchute Lower Water Jacket
- Change-out of faulty Programmable Logic Controller (PLC) on Boiler No. 3 Stoker Panel

Beginning September 17, 2016 Boiler No. 2 experienced 116.2 hours of downtime for scheduled maintenance. Some significant maintenance items completed during the outage are as follows:

- Change-out of grate bars Steps 1 through 8 on both runs
- Change-out of J-bars on both runs
- Replacement of the Sootblower upper root valve with a 900 lb. class valve
- Installation of a new hinged door on the Convection Pass Hopper
- Installation of an access door to help with ash discharger plugs by the rear entry door
- Repair of holes in the ash discharger and transition chute
- Change of oil in all the bag house fly ash conveyor gear boxes and rotary valves
- Repair holes in three (3) of the bag house hopper screw conveyor covers
- Replacement of elements on Sootblowers G9B No. 6 and G9B No. 29
- Removal and replacement of 37 tube shields in the superheater

In addition to the scheduled maintenance, CAAI reports that 929 preventative maintenance actions were completed during the quarter.

5.1 Availability

Facility availabilities for Q1FY17 are shown in Table 5. According to CAAI reports, the average unit availabilities for Boiler Nos. 1, 2, and 3 for Q1FY17 were 97.7%, 94.6%, and 98.7%, respectively. The three-boiler average availability during the quarter was 97.0%, which is excellent.

During Q1FY17, the average availability for Turbine Generator Nos. 1 and 2 was 100.0%. The two-turbine generator average availability during the quarter was 100.0%, which is excellent.

Table 5: Quarterly Facility Unit Availabilities

Availability	Q1FY17 Average
Boiler No. 1	97.7%
Boiler No. 2	94.6%
Boiler No. 3	98.7%
Avg.	97.0%
Turbine No. 1	100.0%
Turbine No. 2	100.0%
Avg.	100.0%

5.2 Downtime Summary

Table 6: Boiler Downtime – Q1FY17

Boiler Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
1	7/13/16	7/14/16	24.1	Scheduled	Scheduled Boiler Cleaning Outage
1	8/17/16	8/17/16	7.0	Unscheduled	MCC Switchgear Replacement
3	8/15/16	8/15/16	4.7	Unscheduled	Programmable Logic Controller Repairs & Forced Draft Fan Electrical Repairs
3	8/16/16	8/17/16	25.0	Scheduled	Scheduled Boiler Cleaning Outage
1	9/2/16	9/2/16	20.9	Unscheduled	Tube Leak Repair
1	9/18/16	9/19/16	22.4	Standby	480V Switchgear Replacement and Process Limitations Preventative Measure
2	9/17/16	9/22/16	116.2	Scheduled	Scheduled Boiler Outage
3	9/17/16	9/19/16	56.5	Standby	480V Switchgear Replacement and Process Limitations Preventative Measure
2	9/22/16	9/22/16	9.5	Standby	Preventative measure taken to avoid exceeding 350,000 ton rolling 12-month process limit
Total Unscheduled Downtime			32.6 Hours		
Total Scheduled Downtime			165.3 Hours		
Total Standby Downtime			88.4 Hours		
Total Downtime			286.3 Hours		

Table 7: Turbine Generator Downtime – Q1FY17

Turbine Generator Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
1	8/17/16	8/17/16	10.0	Standby	MCC Switchgear Replacement
1	9/18/16	9/19/16	23.8	Standby	480V Switchgear Replacement
2	9/17/16	9/22/16	143.5	Standby	Boiler No. 2 Outage and Process Limitations Preventative Measure
Total Unscheduled Downtime			0.0 Hours		
Total Scheduled Downtime			0.0 Hours		
Total Standby Downtime			177.3 Hours		
Total Downtime			177.3 Hours		

5.3 Facility Housekeeping

CAAI is performing Facility housekeeping and maintaining plant cleanliness in accordance with acceptable industry practices. A site inspection was conducted in August 2016. At the time of the inspection, new deficiencies were recorded and prior deficiencies were given a status update. Photos of interest from the inspection are depicted in Appendix B. The Facility housekeeping ratings from the August 2016 inspection are presented in Table 8.

Table 8: Facility Housekeeping Ratings – August 2016

Facility Area	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	√		

6.0 Environmental

The 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 Q1FY17 are summarized in Appendix A. No permit deviations were reported by the Facility during Q1FY17.

On August 8, 2014, CAAI sent a letter to the Virginia Department of Environmental Quality (VADEQ) requesting relief from the steam permit limit requirements in the Facility's Title V and PSD permits. These requested changes relate to the permit values established for the calculated steam-to-waste ratio, which has resulted in a reduction of MSW throughput. In recent discussions, CAAI indicated that it is re-evaluating options to the proposed permit changes, and will provide further updates on this issue.

6.1 Nitrogen Oxide Emissions

During Q1FY17, the monthly emission concentrations of nitrogen oxides (NO_x) averaged 164.3 ppmdv, 161.7 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.

6.2 Sulfur Dioxide Emissions

During Q1FY17 the monthly emission concentration of stack sulfur dioxide (SO₂) averaged 2.0 ppmdv, 0.7 ppmdv, and 1.0 ppmdv for Boiler Nos. 1, 2, and 3, respectively. All of these stack SO₂ concentrations are significantly below the 40 CFR Subpart Cb requirement of 29 ppmdv @ 7% O₂.

6.3 Carbon Monoxide Emissions

During Q1FY17, the average CO emission concentrations on Boiler Nos. 1, 2, and 3 were 31.3 ppmdv, 34.0 ppmdv, and 34.7 ppmdv, respectively, and all are

well within permit limits (100 ppm_{dv}, hourly average). However, as reported by HDR during the May 2016 FMG Meeting, CO averages have been trending higher over the past six (6) months on all three boilers, and CAAI has been requested to investigate and mitigate this uptrend. While not a permit issue, it is indicative of poorer boiler performance and combustion efficiency.

6.4 Opacity

During Q1FY17, the average opacity for Boiler Nos. 1, 2, and 3 was 0.9%, 0.4%, and 0.0% respectively. All of these averages are significantly below the 10% (6-minute) average permit limit.

6.5 Daily Emissions Data

Appendix A, Tables 10, 11, and 12 tabulate the monthly average, maximum, and minimum emissions data for each unit during Q1FY17. 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.

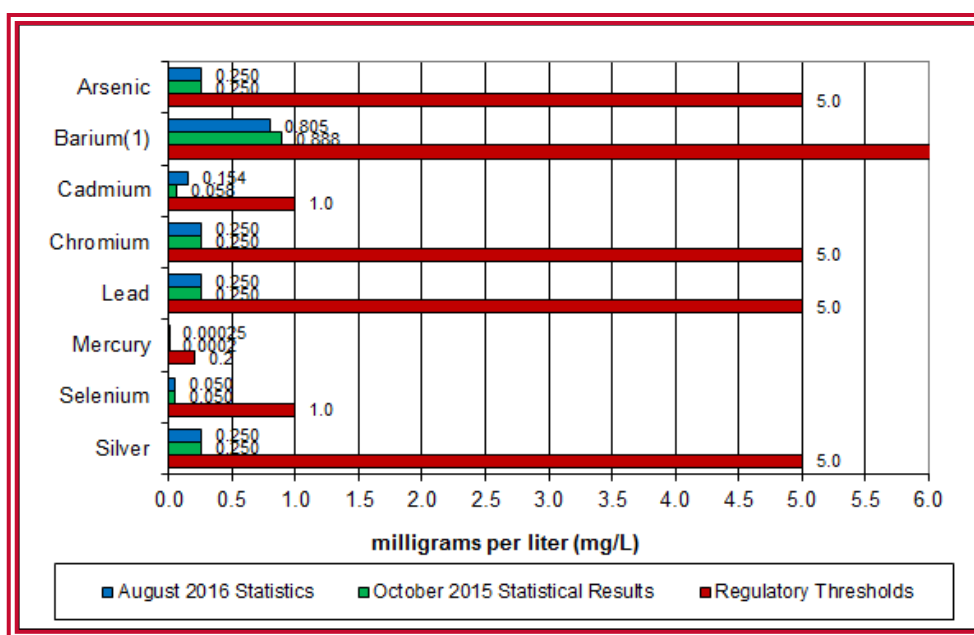
6.6 Ash System Compliance

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 1 to 9 lbs per ton each month. Ash Toxicity (TCLP) tests were performed for field samples collected over a seven (7) day period in August 2016, and results indicated that the average pH during testing was 8.4. Results from the TCLP testing conducted in August 2016 are depicted in Table 9 and Chart 15 below.

Table 9: Comparison of Statistical Results and Regulatory Thresholds for Metal Analytes

Metals	90% Upper Confidence (August 2016)	90% Upper Confidence (October 2015)	Regulatory Threshold (mg/L)	% of Threshold (August 2016)	% of Threshold (October 2015)
Arsenic	0.250	0.250	5.0	5.00%	5.00%
Barium	0.805	0.888	100.0	0.81%	0.89%
Cadmium	0.154	0.058	1.0	15.40%	5.80%
Chromium	0.250	0.250	5.0	5.00%	5.00%
Lead	0.250	0.250	5.0	5.00%	5.00%
Mercury	0.00025	0.0002	0.2	0.13%	0.10%
Selenium	0.050	0.050	1.0	5.00%	5.00%
Silver	0.250	0.250	5.0	5.00%	5.00%

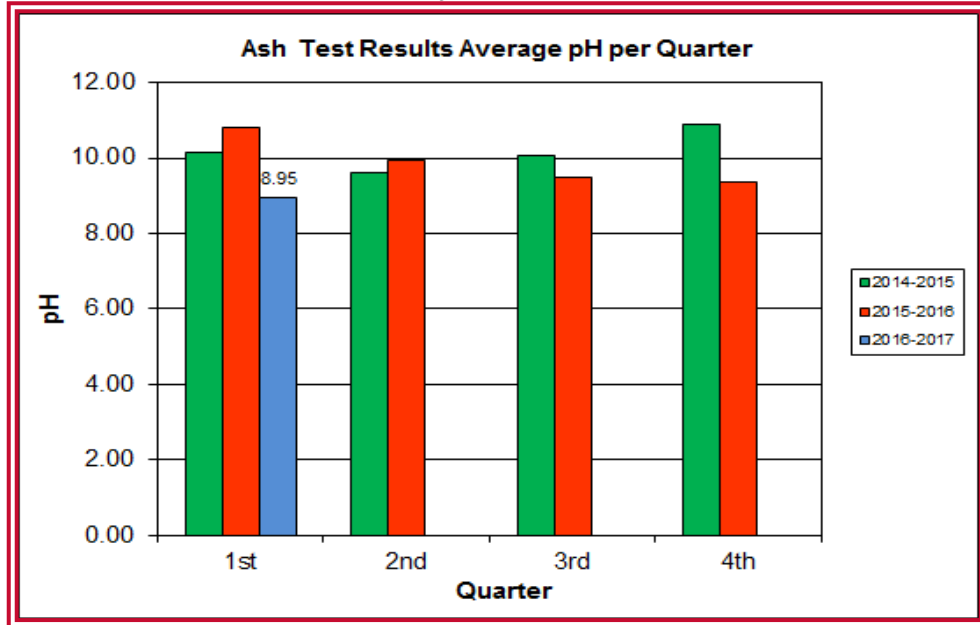
Chart 15: Ash Toxicity Characteristic Leaching Procedure (TCLP) Results



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

CAAI also samples ash monthly in-house, and documents pH reading to adjust dolomitic lime feed rate. The results for the ash pH tests are found below in Chart 16 where each quarter is represented by the average of the respective monthly readings. During Q1FY17, the average ash pH for in-house tests was 9.0.

Chart 16: Quarterly Ash Test Results



APPENDIX A FACILITY CEMS DATA

Table 10: 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.		SteamFI	SO ₂ ec	SO ₂ sc	COsc	NO _x sc	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-16	AVG	83.7	37.0	3.0	31.0	171.0	1.1	299.0	15.9	3.0
	Max	86.6	69.0	5.0	40.0	188.0	1.8	301.0	18.3	3.3
	Min	78.4	14.0	0.0	22.0	155.0	0.7	299.0	15.3	2.8
Aug-16	AVG	85.6	37.0	2.0	35.0	160.0	0.8	300.0	15.3	3.1
	Max	88.4	55.0	7.0	46.0	162.0	1.4	302.0	16.1	3.4
	Min	82.8	23.0	0.0	21.0	159.0	0.5	297.0	15.1	3.0
Sep-16	AVG	80.6	27.0	1.0	28.0	162.0	0.8	300.0	15.4	3.0
	Max	85.6	44.0	5.0	35.0	167.0	1.5	301.0	15.7	5.0
	Min	70.9	14.0	0.0	18.0	147.0	0.0	297.0	15.2	2.5
Quarter Average		83.3	33.7	2.0	31.3	164.3	0.9	299.7	15.5	3.0
Quarter Max Value		88.4	69.0	7.0	46.0	188.0	1.8	302.0	18.3	5.0
Quarter Min Value		70.9	14.0	0.0	18.0	147.0	0.0	297.0	15.1	2.5
Limits:		98	NA	29	100	205	10	333	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 (i.e., 4-hour block averages for CO) do not correlate with the 24 hour average data reported above.

Table 11: 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.		SteamFI	SO ₂ ec	SO ₂ sc	COsc	NO _x sc	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-16	AVG	87.3	48.0	0.0	35.0	161.0	0.1	300.0	16.0	3.1
	Max	89.6	77.0	2.0	44.0	164.0	0.4	300.0	18.5	3.4
	Min	85.7	25.0	0.0	24.0	158.0	0.0	299.0	15.4	2.7
Aug-16	AVG	85.2	35.0	1.0	37.0	159.0	0.4	299.0	15.4	3.2
	Max	87.7	53.0	2.0	49.0	179.0	1.4	300.0	18.4	3.4
	Min	82.1	18.0	0.0	26.0	157.0	0.0	297.0	15.1	2.9
Sep-16	AVG	81.7	39.0	1.0	30.0	165.0	0.8	300.0	15.3	3.2
	Max	88.4	69.0	3.0	42.0	177.0	1.4	300.0	15.7	3.4
	Min	70.8	19.0	0.0	14.0	156.0	0.0	299.0	15.2	2.9
Quarter Average		84.7	40.7	0.7	34.0	161.7	0.4	299.7	15.6	3.2
Quarter Max Value		89.6	77.0	3.0	49.0	179.0	1.4	300.0	18.5	3.4
Quarter Min Value		70.8	18.0	0.0	14.0	156.0	0.0	297.0	15.1	2.7
Limits:		96	NA	29	100	205	10	330	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 (i.e., 4-hour block averages for CO) do not correlate with the 24 hour average data reported above.

Table 12: 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 ₂ ec	SO ₂ sc	COsc	NO _x sc	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-16	AVG	88.1	28.0	0.0	40.0	161.0	0.1	298.0	15.6	3.1
	Max	91.1	46.0	4.0	53.0	162.0	0.3	303.0	18.5	3.8
	Min	86.0	15.0	0.0	29.0	160.0	0.0	292.0	15.2	2.8
Aug-16	AVG	86.0	38.0	1.0	37.0	167.0	0.0	298.0	15.3	3.3
	Max	89.4	107.0	9.0	54.0	179.0	0.1	300.0	16.4	4.1
	Min	72.7	10.0	0.0	23.0	147.0	0.0	293.0	15.0	3.1
Sep-16	AVG	81.5	46.0	2.0	27.0	159.0	0.0	295.0	15.4	3.1
	Max	89.2	84.0	5.0	37.0	161.0	0.0	298.0	15.9	3.8
	Min	72.7	21.0	0.0	17.0	155.0	0.0	292.0	15.4	2.0
Quarter Average		85.2	37.3	1.0	34.7	162.3	0.0	297.0	15.4	3.2
Quarter Max Value		91.1	107.0	9.0	54.0	179.0	0.3	303.0	18.5	4.1
Quarter Min Value		72.7	10.0	0.0	17.0	147.0	0.0	292.0	15.0	2.0
Limits:		98	NA	29	100	205	10	327	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 (i.e., 4-hour block averages for CO) do not correlate with the 24 hour average data reported above.

APPENDIX B

SITE PHOTOS – AUGUST 2016



Figure 1: Safety Cage on Rotary Sootblower No. 27 detached and gears exposed – New Deficiency

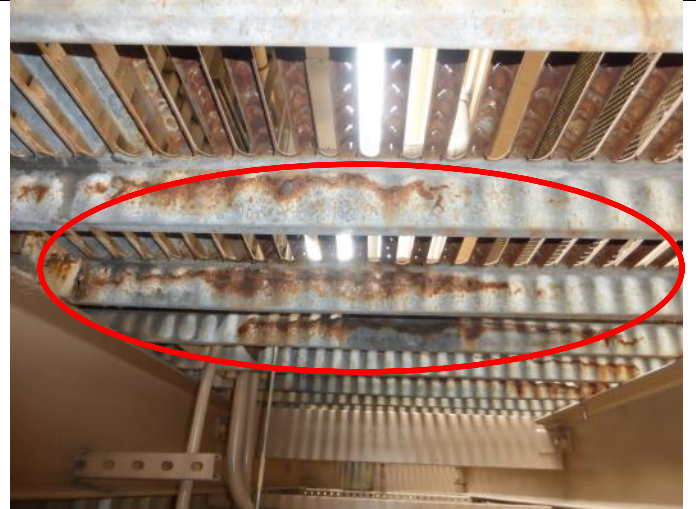


Figure 2: Underside of grating deteriorated, upper elevations of all three economizers – New Deficiency



Figure 3: Hole in wall where forklift is typically parked, northwest corner of Main Vibrating Conveyor – New Deficiency



Figure 4: Emergency eye wash station is leaking, just off CEMS Enclosure – New Deficiency



Figure 5: Turbine Generator No. 2



Figure 6: Ash Trailer Canopy



Figure 7: Citizen's Drop-off Roll-off



Figure 8: Island removed at Facility roadway approaching scales



Figure 9: General Facility Photo – from across Eisenhower Avenue



Figure 10: General Facility Photo- from southwest of Facility



Figure 11: Facility Roadway – facing APC Area and Cooling Towers



Figure 12: Tipping Floor Entrance and Supplemental Waste Load-out Dock



Figure 13: Mixing Ash Samples for TCLP Ash Testing



Figure 14: Refuse Pit – photo from Tipping Floor Entrance



Figure 15: Refuse pit – photo from north side of Charging Floor

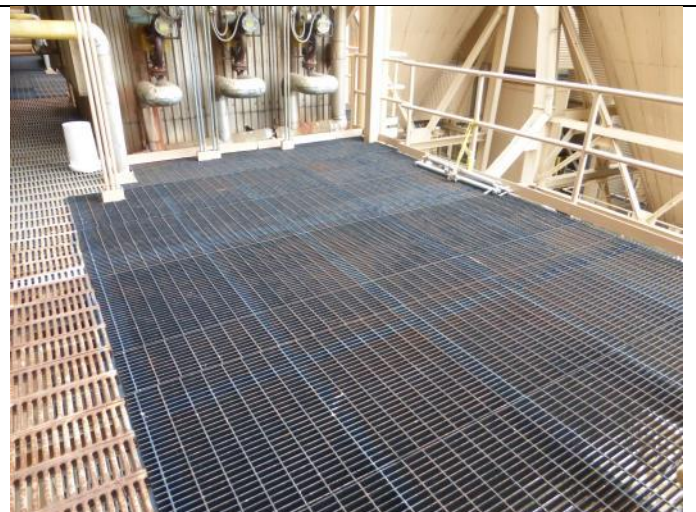


Figure 16: New decking around Economizers



Figure 17: New platforms installed around Induced Draft Fans



Figure 18: Main Vibrating Ash Conveyor



Figure 19: General Facility Photo – east of Ash Trailer Canopy



Figure 20: Ammonia Tank



Figure 21: Dolomitic Lime Silo – photo from east side of Cooling Towers



Figure 22: Front of Facility and Parking Area



Figure 23: General Facility Photo – from northeast corner of property



Figure 24: Scalehouse and Scales