Alexandria Arlington Resource Recovery Facility

Fiscal Year 2018

Annual Operations Report

August 2018

Prepared by:

HDR Engineering, Inc.
4830 W. Kennedy Blvd., Suite 400
Tampa, Florida 33609-2548

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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
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
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

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Alexandria/Arlington Waste-to-Energy Facility
Annual Operations Report – Fiscal Year 2018

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 2018 Fiscal Year. This report is prepared for the fourth quarter of the 2018 fiscal year and summarizes Facility operations between April 1, 2018 and June 30, 2018, as well as the entire fiscal year. This report identifies the fiscal year beginning on July 1, 2017 as FY18 and the quarter beginning on April 1, 2018 as Q4FY18.

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 Q4FY18. The operation of the Facility, maintenance, safety, and overall cleanliness continue to be above average. Environmental performance was excellent with no reportable environmental excursion throughout the quarter.

During Q4FY18, the boilers experienced seven (7) instances of unscheduled downtime totaling 77.1 hours, and the turbine generators experienced no unscheduled downtime. Boiler No. 3 experienced a mini scheduled outage totaling 23.4 hours of downtime, with no additional scheduled maintenance on any of the boilers or turbine generators. No standby downtime was experienced by the boilers or turbine generators during the quarter. A detailed listing of downtime is provided in Section 5.2 of this report.

Average waste processed during the quarter was 1,023.0 tons per day, or 104.9% of nominal facility capacity. Waste deliveries averaged 1,056.8 tons per day, which is 3.3% higher than the burn rate. The capacity utilization of 104.9% is excellent when compared to that of mature, well run waste to energy facilities.

For FY18, average waste processed was 959.1 tons per day, or 98.4% of nominal facility capacity of 975 tons per day. Waste deliveries averaged 963.5 tons per day, which is 0.5% more than the annual burn rate. The annual capacity utilization of 98.4% compares very favorably to industry averages.

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 (less than 0.1%) from the corresponding quarter in FY17; steam production decreased (3.2%), and electricity generated (gross) decreased (4.7%) from the corresponding quarter in FY17. The decrease in steam generation is attributable to the decrease (4.5%) in waste heating value, paired with more boiler downtime (30.6 additional hours). The decrease in electricity generated (gross) in Q4FY18, is attributable to lower steam production, offset by less downtime (7.3 fewer hours) experienced by the turbine generators.

During FY18, MSW processed slightly increased by 0.2% from FY17; steam production slightly increased 0.9%, and electricity generated (gross) slightly decreased 0.3% compared to FY17. Annual steam generation increased slightly despite a slight decrease (0.3%) in annual calculated average waste heating value and more (134.7 additional hours) scheduled, unscheduled, and standby downtime experienced by the boilers. Annual electrical generation decreased in FY18 as compared to FY17 despite a slight increase in steam production and less (329.6 fewer hours) scheduled, unscheduled, and standby downtime experienced by the turbine generators. This is indicative of continuing

deterioration in turbine generator efficiency, which can typically be restored during scheduled major overhauls. CAAI continued to throttle back the boiler steam load as necessary in FY17 to stay below the monthly steam production limits.

3.0 Facility Inspection and Records Review

In May 2018, 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 and discussed performance issues with CAAI staff. 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 in due course, 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	Pot hole, southeast corner of Ash Trailer Canopy	August 2015	C	Repair road surface	**Status Unchanged**	Open
2	Pavement spider-cracking at Tipping Floor Entrance	November 2016	C	Resurface section of pavement at Tipping Floor Entrance	**Status Unchanged**	Open
3	Tipping Floor Center Bay concrete apron eroded and rebar exposed	February 2017	C	Resurface eroded section of Tipping Floor near refuse pit	**Status Unchanged**	Open
4	Ceiling panels deteriorated above Boiler Nos. 2 and 3	May 2017	C	Replace deteriorated ceiling tiles and conduct painting preservation measures	**Status Unchanged**	Open
5	Siding on north and east side of Facility dirty	May 2017	C	Pressure Wash Siding	**Complete**	Closed
6	Pressure wash of exterior siding needed at Charging Floor Elevation Above Service Elevator	August 2017	C	Pressure wash exterior siding	**Status Unchanged**	Open
7	SDA Penthouse No. 3 Door deteriorated at base	November 2017	C	Patch and Paint Door – Replace if necessary	**Status Unchanged**	Open
8	Damaged curbing on west side of Cooling Towers	March 2018	C	Repair damaged curbing	**Status Unchanged**	Open
9	Pipe corroded on west side of SDA No. 1	March 2018	C	Conduct proper painting preservation measures	**Status Unchanged**	Open
10	Perimeter fence is leaning at northeast corner of Facility Property — See Figure 1 (Appendix B)	May 2018	C	Straighten fence and properly support posts	**Status Unchanged**	Open
11	Cooling Tower stair treads (typical of 3) are detached — See Figure 2 (Appendix B)	May 2018	A	Glue or mechanically fasten stair treads down	**Status Unchanged**	Open

4.0 Facility Performance

Monthly operating data provided by CAAI indicates that 93,094 tons of MSW were processed during Q4FY18, and a total of 96,165 tons of MSW including 3,438 tons of Special Handling Waste were received. Total ash production during the quarter was 17,592 tons, which represents 18.9% of the waste processed by weight. The average uncorrected steam production rate for Q4FY18 was 2.94 $tons_{steam}/ton_{waste}$, which is lower (3.2%) than the corresponding quarter in FY17. The decrease in this metric is attributable to the 4.5% decrease in the average waste heating value (HHV) calculated by CAAI.

On an annual basis, 350,087 tons of MSW were processed during FY18, and a total of 351,693 tons of MSW and 16,431 tons of Special Handling Waste were received. Total ash production during FY18 was 70,368 tons, which represents 20.1% of the waste processed. The average uncorrected steam production rate for FY18 was 3.05 $tons_{steam}/ton_{waste}$, and slightly higher (0.7%) than the prior fiscal year. The slight increase in this metric was experienced despite the slight decrease (0.3%) in the calculated average waste heating value when comparing FY18 to FY17.

Chart 1: Tons of Waste Processed

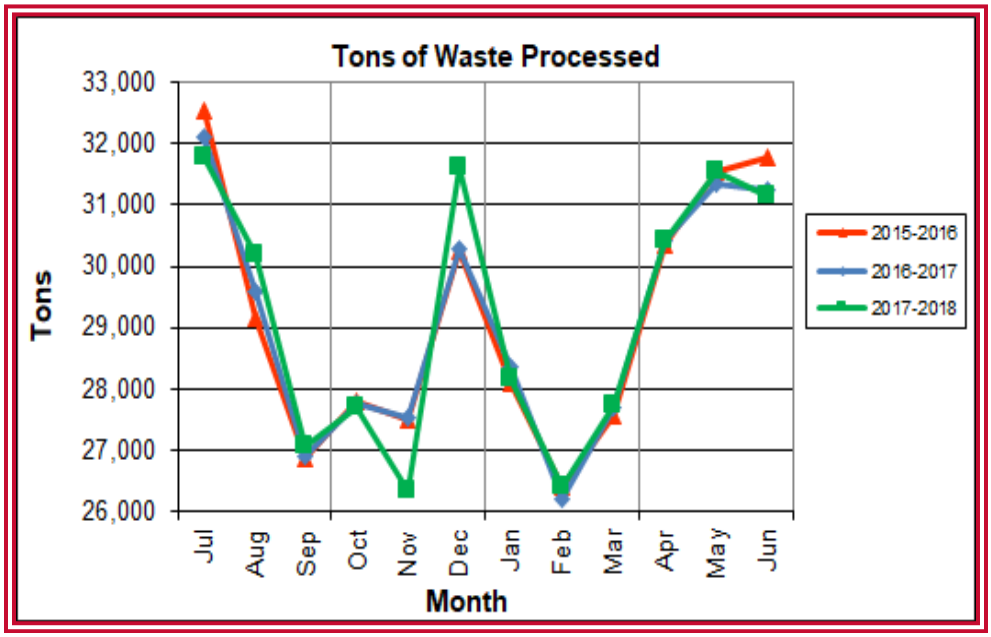


Chart 1 illustrates that Q4FY18 waste processed was slightly lower (less than 0.1%) than the corresponding quarter, Q4FY17.

CAAI reported that 451 tipping floor/MSW internal inspections were conducted during the quarter and four (4) notices of violation (NOVs) were issued to haulers for the following issues:

- April 2018 – two (2) NOVs were issued for construction debris in the loads
- May 2018 – two (2) NOVs were issued for:
  - One (1) NOV for not following operator's direction
  - One (1) NOV for unacceptable waste
- June 2018 - No NOVs issued

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

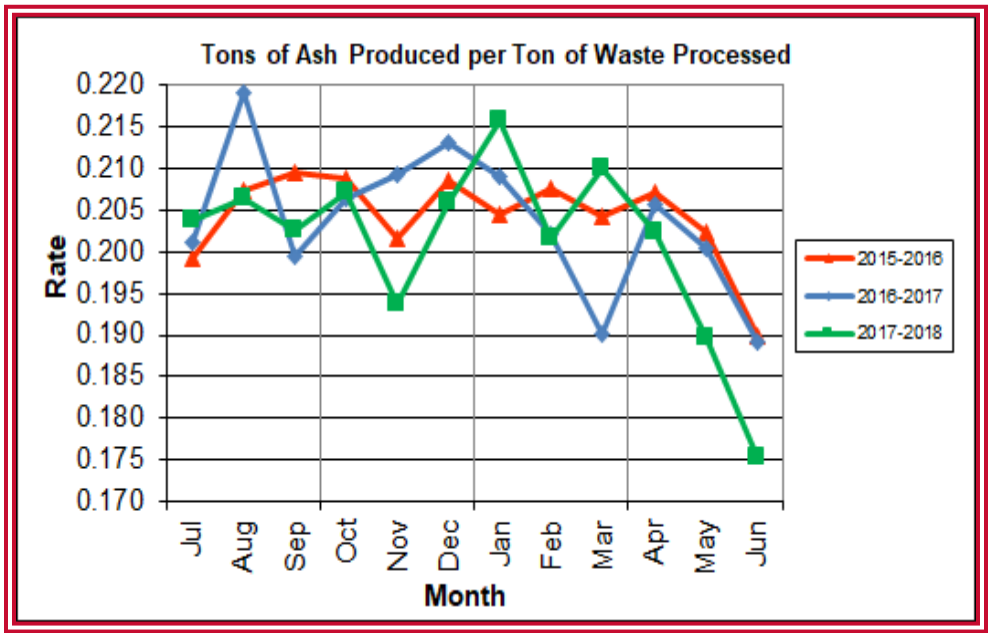


Chart 2 illustrates that the average ash production rate in Q4FY18 was lower (0.9%) at 18.9% of processed waste, compared to the corresponding quarter in FY17 when the rate was 19.8%.

The annual ash production rate for FY18 was slightly lower (0.3%) at 20.1% of processed waste, compared to FY17 when the rate was 20.4%. Ash production rates remain significantly lower than comparable facilities, mainly due to less water in the ash stream, coupled with good metal removal.

Chart 3: Ferrous Recovery Rate

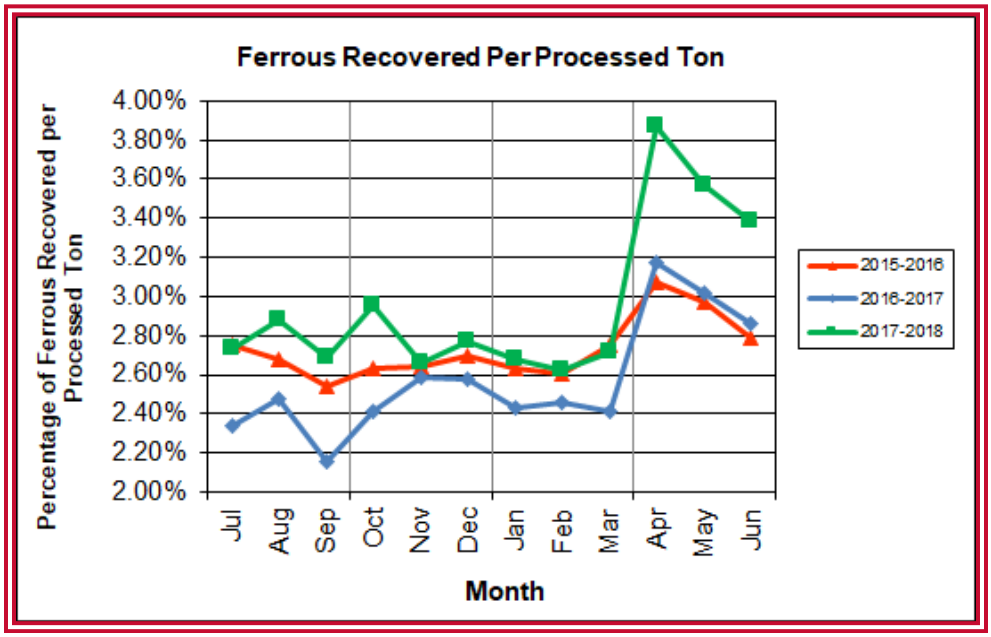
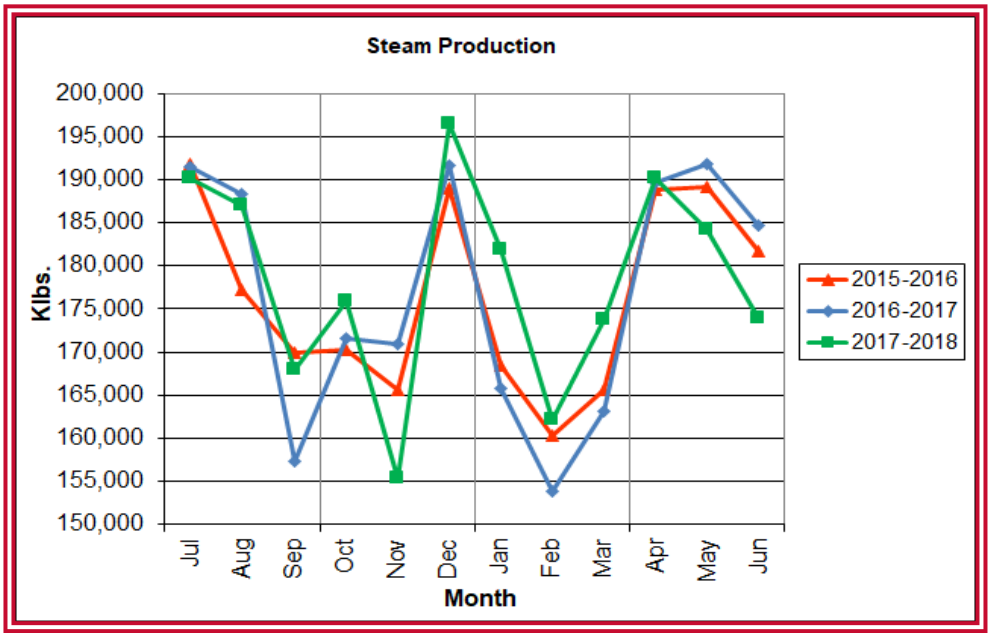


Chart 3 depicts the monthly ferrous metal recovery rate as a percentage of processed MSW tonnage. In Q4FY18, 3,354 tons of ferrous metals were recovered, which is 19.6% higher than the corresponding quarter in FY17 and equivalent to 3.6% of processed waste. CAAI reports that the significant increase in ferrous recovery during the quarter was attributable to adjusting the gap between the pan and magnet, and replacing the edge of the pan as necessary, due to wear. However, HDR suspects some data anomaly may be responsible for a portion of the spike in ferrous recovery, which is viewed as highly unusual. Further discussions with CAAI are warranted on this apparent anomaly that does not correlate with what has been observed elsewhere during this period.

In FY18, 10,418 tons of ferrous metals were recovered, which is 15.3% higher than FY17 and equivalent to 3.0% of processed waste. CAAI indicated that in late March 2017, it made adjustments to the length of the main pan to decrease the gap between the pan and the ferrous magnet. The adjustments to the pan resulted in an increased trend in ferrous recovery for the last quarter of FY17 through the first and second quarter of FY18.

Chart 4: Steam Production



In Chart 4, the total steam production for Q4FY18 was 548,286 klbs., and lower (3.2%) than the corresponding quarter in FY17. The decrease in steam generation is attributable to the decrease (4.5%) in waste heating value, paired with more boiler downtime (30.6 additional hours).

Annual steam production for FY18 was 2,139,023 klbs., or 0.9% higher than FY17 which produced 2,120,115 klbs. Annual steam generation increased slightly despite a slight decrease (0.3%) in annual calculated average waste heating value and more (134.7 additional hours) scheduled, unscheduled, and standby downtime experienced by the boilers.

Chart 5: 12-Month Rolling Steam Production

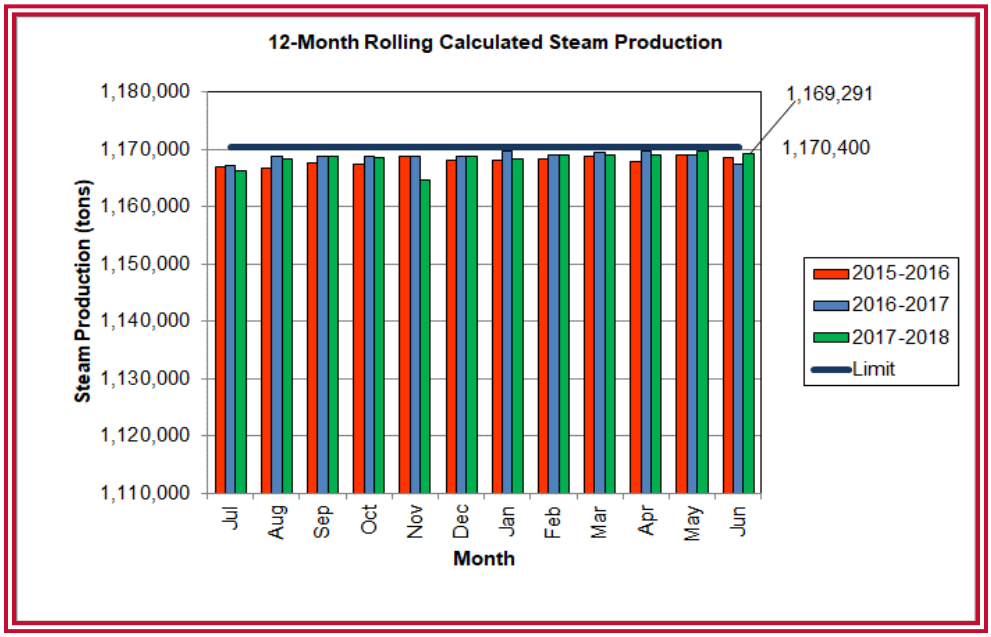
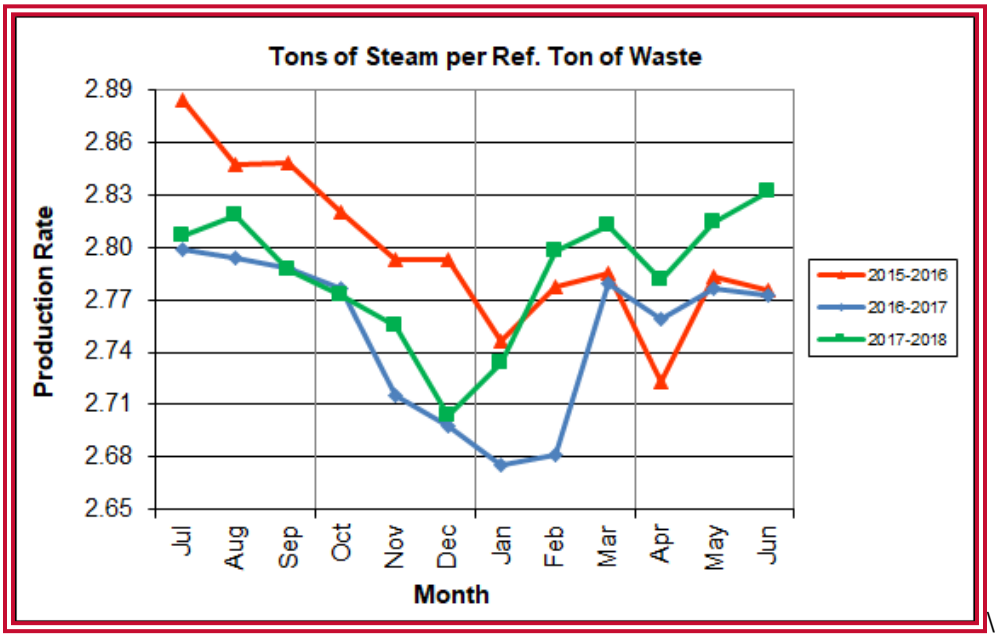


Chart 5 depicts the 12-month rolling steam production total for the period ending in June 2018. According to the Title V permit, the annual steam production for the Facility shall not exceed 1,170,400 tons on the basis of an average value of 3.34 lbs of steam per lb of MSW processed, calculated monthly 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 Q4FY18, as well as all of FY18. The 12 month rolling total for steam production ending in June 2018 was 1,169,291 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 Q4FY18, this metric tracked higher (1.4%) at 2.81 $tons_{steam}/ton_{ref,,}$ compared to the corresponding quarter in FY17.

The annual steam production rate for FY18 was 2.78 $tons_{steam}/ton_{ref}$, which is higher (1.2%) than FY17. This chart shows that for the first six (6) months of FY18, a downtrend was experienced in the normalized steam production rate which is similar to the same period during FY17. Although an improvement was experienced during the second half of FY18, this trend should continue to be monitored to determine if it is indicative of improved boiler performance, an aberration during scheduled outage periods, or some other currently unexplained cause.

Chart 7: Calculated Waste Heating Value

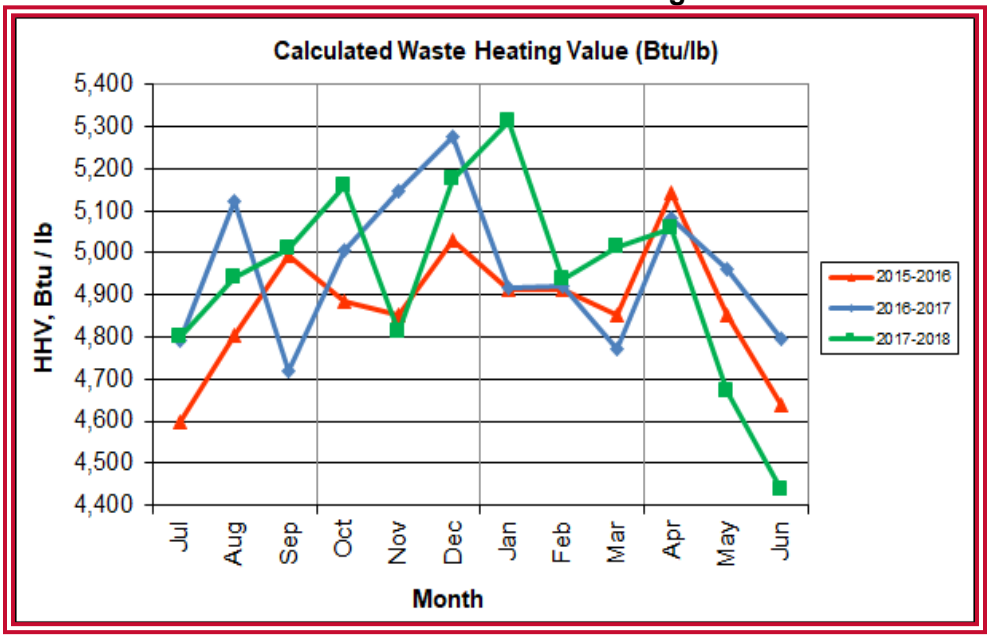


Chart 7 illustrates that Q4FY18 calculated average waste heating value was lower (4.5%) at 4,722 Btu/lb than the corresponding quarter Q4FY17, which averaged 4,946 Btu/lb.

In FY18, the annual average waste heating value was slightly lower (0.3%) at 4,944 Btu/lb than FY17, which averaged 4,959 Btu/lb. Note that the FY18 annual average heating value of 4,944 Btu/lb is 9.9% higher than the facility design value of 4,500 Btu/lb. This disparity in average heating value of the fuel compared to the original design value established in the 1980's is one of the reasons that the annual capacity utilization is in excess of 100% and considerably higher than similar facilities that generally operate in the 90% range (see Section 2.0).

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)
Q4FY16	**Quarterly Totals**	**93,652**	**0**	**18,703**	**2,262**	**2,753**	**559,883**	**40,207**
	April – 16	30,356	0	6,289	996	932	188,882	13,853
	May – 16	31,530	0	6,380	605	936	189,239	13,541
	June – 16	31,766	0	6,034	661	885	181,762	12,813
Q4FY17	**Quarterly Totals**	**93,024**	**0**	**18,451**	**4,842**	**2,805**	**566,152**	**40,625**
	April – 17	30,423	0	6,255	1,420	966	189,608	13,778
	May – 17	31,350	0	6,285	1,705	945	191,859	13,849
	June– 17	31,251	0	5,911	1,717	894	184,685	12,998
Q4FY18	**Quarterly Totals**	**93,094**	**0**	**17,592**	**3,438**	**3,354**	**548,286**	**38,568**
	April – 18	30,420	0	6,157	886	1,177	190,177	13,812
	May – 18	31,531	0	5,979	1,391	1,124	184,159	12,833
	June – 18	31,143	0	5,456	1,161	1,053	173,950	11,923
FY18 Totals		**350,087**	**0**	**70,368**	**16,431**	**10,418**	**2,139,023**	**150,506**
FY17 Totals		**349,516**	**0**	**71,208**	**13,411**	**9,036**	**2,120,115**	**150,935**
FY16 Totals		**349,881**	**0**	**71,019**	**5,413**	**9,864**	**2,109,442**	**145,085**

Table 2 presents the production data provided to HDR by CAAI for Q4FY18 on both a monthly and quarterly basis. For purposes of comparison, data for Q4FY16 and Q4FY17 are also shown, as well as FY16, FY17 and FY18 totals.

In comparing quarterly totals, the data shows:

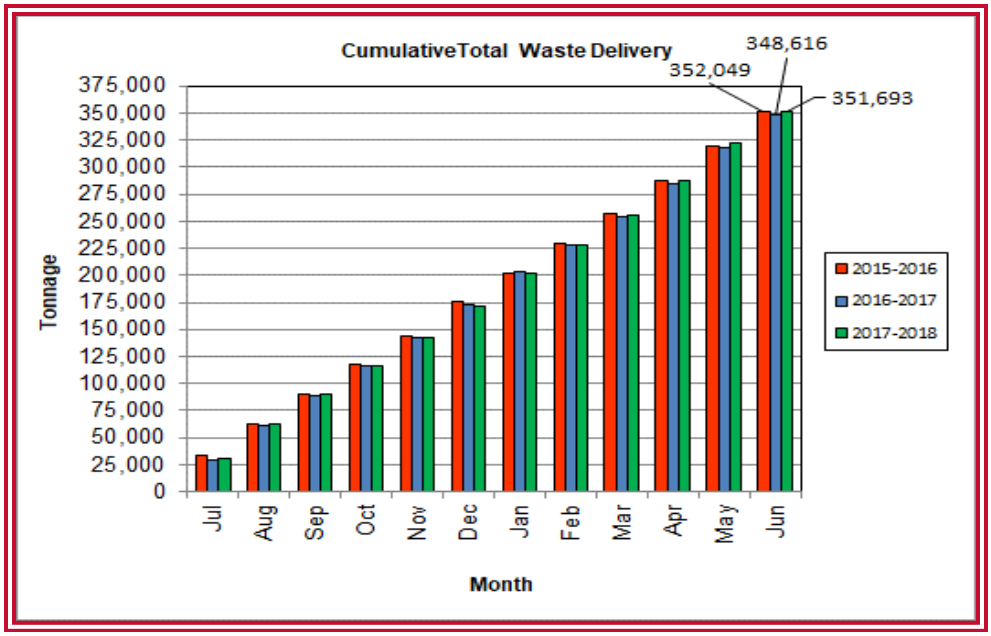
- Slightly more waste was processed in Q4FY18 than Q4FY17 and less than Q4FY16
- Less steam was generated in Q4FY18 than Q4FY17 and Q4FY16
- Less electricity (net) was generated in Q4FY18 than Q4FY17 and Q4FY16
- Less supplemental waste was received in Q4FY18 than Q4FY17 and more than Q4FY16.

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 rolling average monthly basis, and not a fiscal year basis. It is also worth noting that the quantity of waste processed during Q4FY18 continues to be limited by the steam production permit restrictions (refer to Chart 5).

Table 3: Waste Delivery Classification

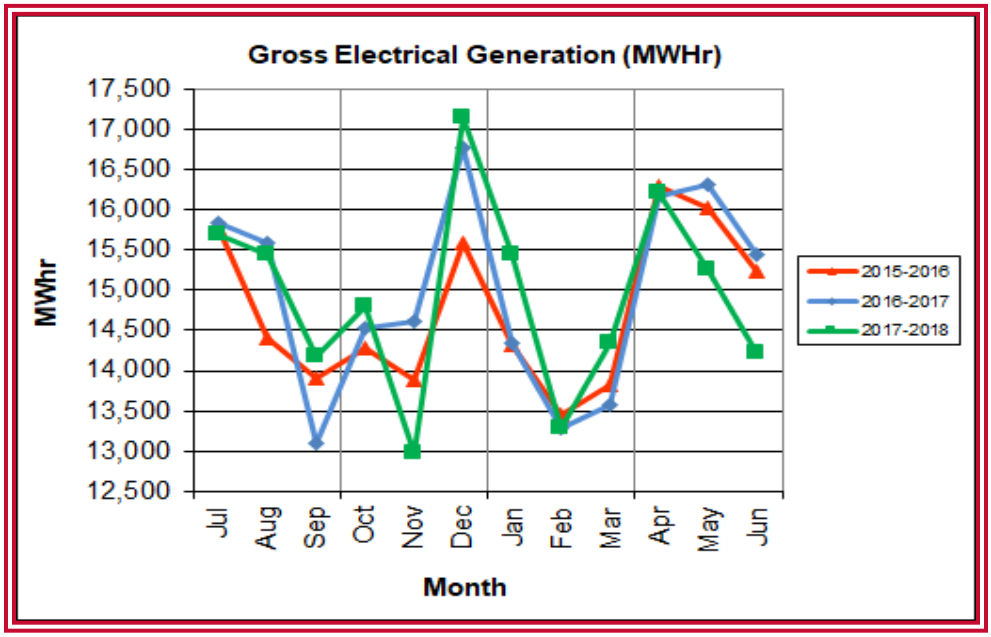
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY14	City Waste	2,065	1,693	1,702	1,924	1,566	1,780	1,529	1,231	1,556	2,256	2,203	1,883	21,389	6.11%
	County Waste	3,459	3,079	2,784	3,091	2,707	2,802	2,568	1,957	2,272	3,326	3,987	3,387	35,419	10.12%
	Municipal Solid Waste	26,167	23,604	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%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY15	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%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY16	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%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY17	City Waste	1,678	1,836	1,668	1,722	1,817	1,708	1,597	1,452	1,604	1,882	2,170	2,002	21,136	6.06%
	County Waste	2,386	2,469	2,370	2,184	2,321	2,289	2,287	2,016	2,517	2,371	2,877	2,889	28,976	8.31%
	Municipal Solid Waste	24,862	26,976	22,760	22,110	21,598	25,996	24,218	20,888	20,401	25,004	26,143	24,135	285,091	81.78%
	Supplemental Waste	504	642	734	926	941	1,036	1,083	1,413	1,291	1,420	1,705	1,717	13,412	3.85%
	MSW Totals	**29,430**	**31,922**	**27,532**	**26,941**	**26,677**	**31,030**	**29,185**	**25,769**	**25,814**	**30,677**	**32,895**	**30,743**	**348,615**	**100.00%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Tota
FY18	City Waste	1,699	1,876	1,642	1,719	1,849	1,541	1,621	1,365	1,569	2,000	2,298	2,011	21,191	6.03%
	County Waste	2,458	2,654	2,513	2,529	2,635	2,321	2,502	2,110	2,391	2,509	2,959	2,776	30,356	8.63%
	Municipal Solid Waste	24,950	25,303	21,518	20,885	19,108	24,668	25,302	20,826	22,980	26,645	27,438	24,091	283,714	80.67%
	Supplemental Waste	1,807	1,835	1,805	1,638	1,553	1,339	1,301	884	829	886	1,391	1,161	16,430	4.67%
	MSW Totals	**30,914**	**31,668**	**27,478**	**26,772**	**25,146**	**29,869**	**30,726**	**25,185**	**27,770**	**32,040**	**34,086**	**30,039**	**351,691**	**100.00%**

Chart 8: Cumulative Total Waste Delivery



As depicted in Table 3 and Chart 8, for FY18; cumulative total waste delivery was 0.9% higher compared to the same period in FY17.

Chart 9: Gross Electrical Generation

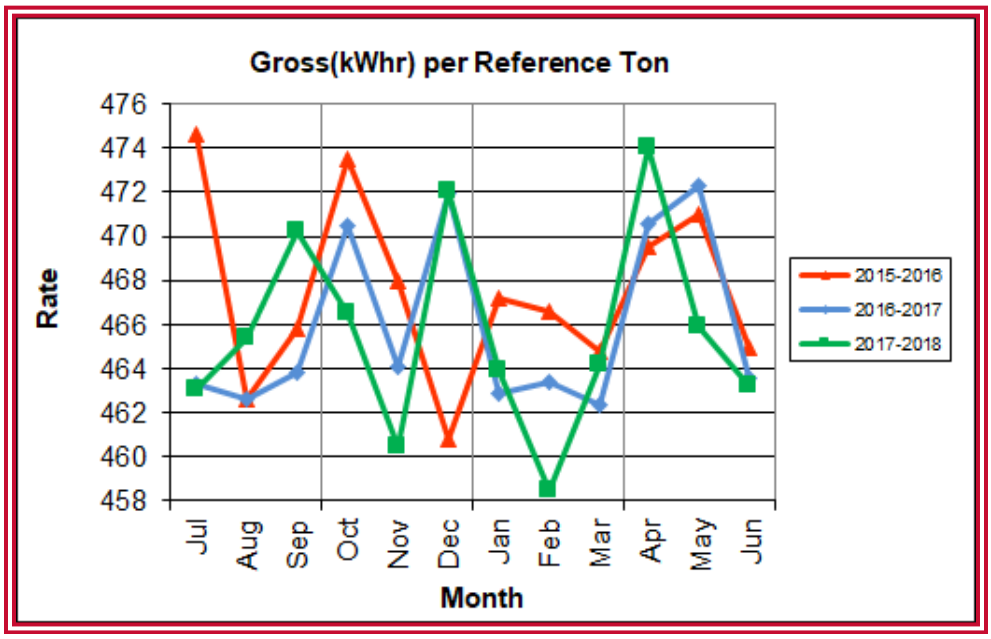


During Q4FY18, the Facility generated 45,677 MWhrs (gross) of electricity compared to Q4FY17 generation of 47,923 MWhrs (gross), a 4.7% decrease. The decrease in electricity generated (gross) in Q4FY18, is attributable to lower

steam production, offset by less downtime (7.3 fewer hours) experienced by the turbine generators.

During FY18, the Facility generated 178,963 MWhrs (gross) of electricity compared to the FY17 generation of 179,556, a 0.3% decrease. Annual electrical generation decreased in FY18 as compared to FY17 despite a slight increase in steam production and less (329.6 fewer hours) scheduled, unscheduled, and standby downtime experienced by the turbine generators.

Chart 10: Gross Conversion Rate



As shown in Chart 10, the average gross electrical generation per reference ton of refuse processed during Q4FY18 was 468 kWhr, which is slightly lower (0.2%) than the corresponding quarter in FY17. Since this calculated value uses reference or normalized tonnages of waste, it should cancel the effect of MSW heating value (Btu content) variability.

During FY18, the average gross electrical generation per reference ton of refuse processed was 466 kWhr, which is slightly lower (less than 0.1%) than FY17.

Chart 11: Net Conversion Rate

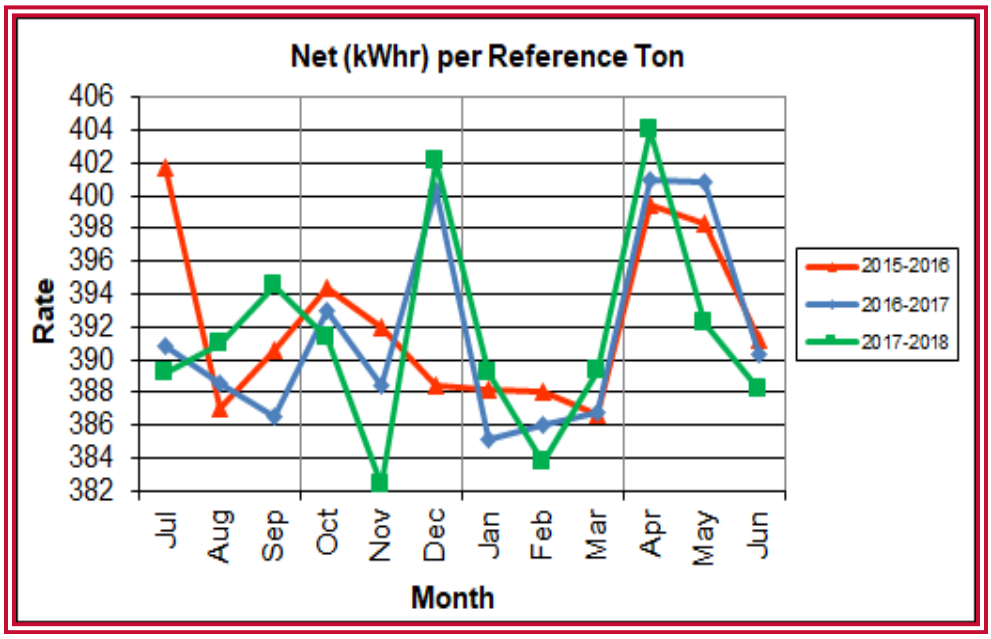


Chart 11 depicts the normalized net power (gross minus in-house usage) generation history. In Q4FY18, the average net electrical generation per reference ton was 395 kWhr, which is 0.7% lower than the corresponding quarter in FY17.

In FY18, the average net electrical generation per reference ton was 391 kWhr, which is identical to FY17.

Chart 12: Net Conversion Rate

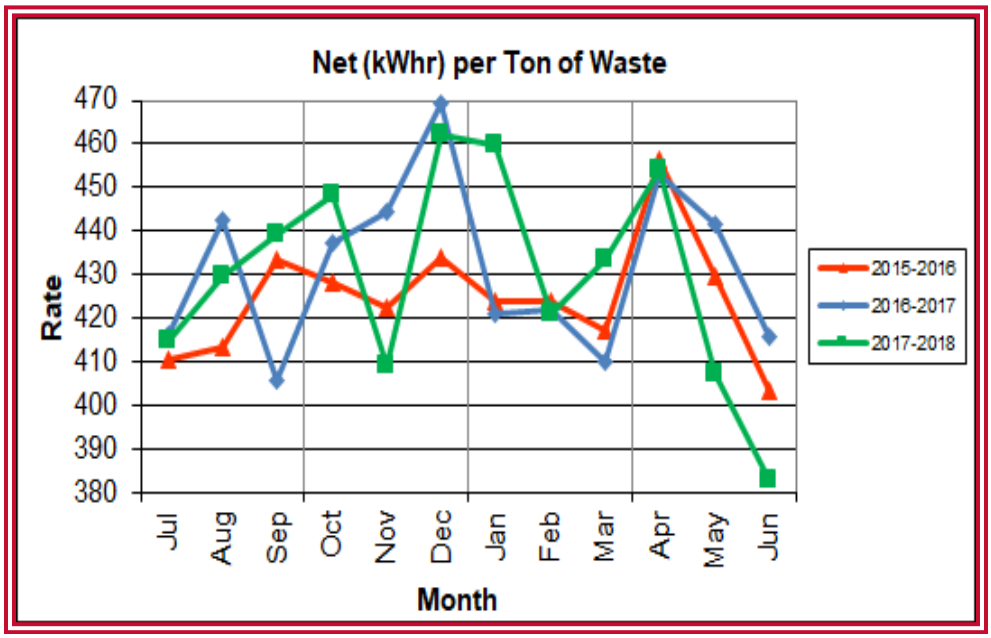


Chart 12 depicts the net power generation per processed ton. The net electrical generation per processed ton in Q4FY18 was 415 kWhr, which is 5.1% lower than the corresponding quarter in FY17 and is attributable to the decrease (4.5%) in waste heating value.

In FY18, the net electrical generation per processed ton was 430 kWhr which is 0.3% lower than FY17. The slight decrease is attributable to the decrease (0.3%) in annual average waste heating value.

Chart 13: Gross Turbine Generator Conversion Rate

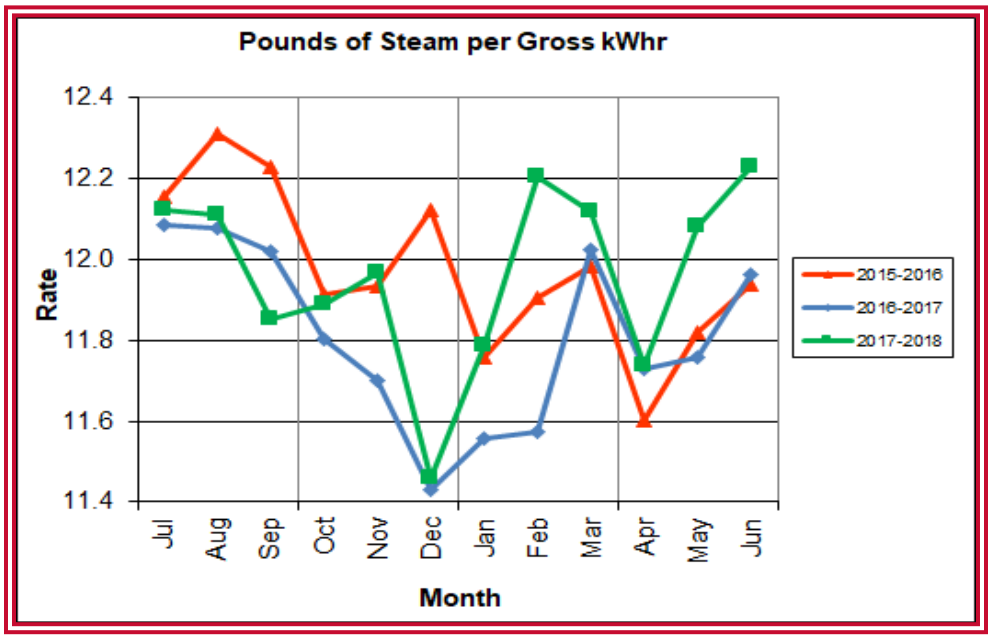


Chart 13 illustrates the quantities of steam required to generate one (1) kWhr of gross electricity. This measure is a turbine generator performance indicator, where lower steam rates indicate superior performance. For simplification, this calculated rate is based on the average for the two turbine generators. In Q4FY18 the average lbs of steam consumed per gross kWhr generated was 12.0, which is 1.6% higher (less efficient) than the corresponding quarter Q4FY17. A factor that negatively impacts this metric is Turbine Generator No. 2, which continues to operate with its Stage 9 blades removed from the rotor. CAAI 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. CAAI 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 main steam temperature during the quarter was 681.4°F, which is 9.9°F lower than the average main steam temperature of the corresponding quarter last fiscal year and 18.6°F lower than design temperature of 700°F.

In FY18, the average lbs of steam consumed per gross kWhr was 12.0, which is 1.2% higher (less efficient) than the rate in FY17, noting that for this metric, lower steam consumption represents improved performance. The average steam temperature for FY18 was 681.3° F, which is 5.1°F lower than the average main steam temperature of the corresponding quarter last fiscal year and 18.7°F lower than design temperature of 700°F.

4.1 Utility and Reagent Consumptions

Table 4: Facility Utility and Reagent Consumptions

Utility	Units	Q4FY18 Total	Q4FY17 Total	Q4FY18"Per Processed Ton" Consumption	Q4FY17"Per Processed Ton" Consumption	FY18 Total	FY17 Total
Purchased Power	MWhr	5,510	6,191	0.06	0.07	22,193	22,906
Fuel Oil	Gal.	11,130	13,440	0.12	0.14	51,130	58,890
Boiler Make-up	Gal.	1,433,000	1,234,000	15.39	13.27	4,954,000	6,257,000
Cooling Tower Make-up	Gal.	39,987,886	42,298,090	429.54	454.70	141,527,845	152,993,251
Pebble Lime	Lbs.	1,286,000	1,324,000	13.81	14.23	5,358,000	5,042,000
Ammonia	Lbs.	183,000	191,000	1.97	2.05	730,000	710,000
Carbon	Lbs.	84,000	94,000	0.90	1.01	356,000	374,000
Dolomitic Lime	Lbs.	226,000	290,000	2.43	3.12	694,000	784,000

Fuel oil usage during the quarter represents approximately 0.18% of the total heat input to the boilers, which compares favorably with industry averages, and somewhat lower than the percentage of heat input in Q4FY17 which was 0.22%. 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 2.2% of steam flow, which is slightly higher than the boiler makeup in Q4FY17 which was 1.8% and is acceptable. Pebble lime usage, at 1,286,000 lbs. is lower (2.9%) than the corresponding quarter last year.

In comparing Q4FY18 to Q4FY17 on a per processed ton consumption basis:

- the purchased power consumption rate was 11.1% lower
- the total fuel oil consumption rate was 17.3% lower
- the boiler make-up water consumption rate was 16.0% higher
- the cooling tower make-up water consumption rate was 5.5% lower
- the total pebble lime consumption rate was 2.9% lower

- the ammonia consumption rate was 4.3% lower
- the carbon consumption rate was 10.7% lower
- the total dolomitic lime consumption rate was 22.1% lower

The significant decrease in fuel oil consumption during the quarter is attributable to fewer start-up and shut-down activities of the boilers for scheduled and unscheduled downtime. CAAI reports that the significant decrease in dolomitic lime consumption during Q4FY18 when compared to the corresponding quarter in FY17, was a result of using delivery totals, rather than silo level detector totals.

4.2 Safety & Environmental Training

The Facility experienced no OSHA recordable accidents during the quarter and has operated 96 days without an OSHA recordable accident. During the quarter, Safety and Environmental training was conducted with themes as follows:

April 2018

- Safety:
  - Hearing Conservation
  - Bloodborne Pathogens
  - Using JSAs and JOB Observations
  - Table Top Exercise on Handling Medical Emergencies
  - Lock-out Tag-out Temporary Release Updates Training
- Environmental:
  - Storm Water
  - Storm Water Benchmark Values
  - Storm Water Lessons Learned

May 2018

- Safety:
  - Mobile Equipment
  - Facts on “Why to always wear a seatbelt”
  - Mobile Equipment and Roll-over Safety/Prevention
  - Tipping Floor/Transfer Station Hazards

- Environmental:
    - Environmental Awareness and the Rs (Recognize, Report, Respond)
    - Table Top Exercise on Identifying a Spill from Unlabeled Drums on the Tipping Floor

June 2018

- Safety:
    - Emergency Action Plan
    - Fire Protection Equipment
    - Handling a Fire Emergency
- Environmental:
    - Environmental Compliance Operations Manual
    - Environmental Management Information Systems Software
    - Environmental Permits

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 June 6, 2018 Boiler No. 3 experienced 23.4 hours of downtime for scheduled cleaning mini outage.

In addition to the scheduled cleaning mini outage, CAAI reports that 845 preventative maintenance actions were completed during the quarter.

5.1 Availability

Facility availabilities for Q4FY18 are shown in Table 5. According to CAAI reports, the average unit availabilities for Boiler Nos. 1, 2, and 3 for Q4FY18 were 97.3%, 99.4%, and 98.7%, respectively. The three-boiler average

availability during the quarter was 98.5%, which is excellent and comparable to that of mature, well run waste to energy facilities.

According to CAAI reports, the average unit availabilities for Turbine Generator Nos. 1 and 2 for Q4FY18 was 100.0% during Q4FY18.

Overall boiler availability for FY18 was 94.2%, and overall turbine generator availability was 99.4%. Overall availabilities for the boilers are highly acceptable and above industry averages, noting that these reported availability metrics exclude standby time experienced during the fiscal year which amounted to 15.0 hours for the boilers and 282.9 hours for the turbine generators.

Table 5: Quarterly Facility Unit Availabilities

Availability	Q1FY18 Average	Q2FY18 Average	Q3FY18 Average	Q4FY18 Average	FY18 Average
Boiler No. 1	93.5%	88.1%	87.4%	97.3%	91.6%
Boiler No. 2	99.2%	92.3%	90.2%	99.4%	95.3%
Boiler No. 3	98.2%	93.0%	93.3%	98.7%	95.8%
Avg.	***96.9%***	***91.1%***	***90.3%***	***98.5%***	***94.2%***
Turbine No. 1	100.0%	100.0%	99.7%	100.0%	99.9%
Turbine No. 2	96.1%	100.0%	99.5%	100.0%	98.9%
Avg.	***98.1%***	***100.0%***	***99.6%***	***100.0%***	***99.4%***

5.2 Downtime Summary

Table 6: Boiler Downtime – Q4FY18

Boiler Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
2	4/8/18	4/9/18	13.0	Unscheduled	Transition Chute Pluggage
1	4/15/18	4/15/18	3.0	Unscheduled	Feedchute Pluggage
1	4/16/18	4/16/18	1.0	Unscheduled	Stoker System - Feeders
3	4/18/18	4/18/18	4.5	Unscheduled	Ash Discharger Pluggage
1	5/3/18	5/3/18	7.8	Unscheduled	Under Fire Air Fan Motor Replacement
1	5/9/18	5/10/18	19.3	Unscheduled	Broken Grate Bars
3	6/6/18	6/7/18	23.4	Scheduled	Scheduled Boiler Cleaning Mini Outage
1	6/13/18	6/15/18	28.5	Unscheduled	Tube Leak Repair – Furnace Right Wall - Refractory Area
Total Unscheduled Downtime					**77.1 Hours**
Total Scheduled Downtime					**23.4 Hours**
Total Standby Downtime					**0.0 Hours**
Total Downtime					**100.5 Hours**

Table 7: Turbine Generator Downtime – Q4FY18

Turbine Generator Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
No instances of unscheduled, scheduled, or standby time were experienced by the turbine generators during Q4FY18					
Total Unscheduled Downtime					**0.0 Hours**
Total Scheduled Downtime0					**0.0 Hours**
Total Standby Downtime					**0.0 Hours**
Total Downtime					**0.0 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 May 2018. 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 May 2018 inspection are presented in Table 8.

Table 8: Facility Housekeeping Ratings – May 2018

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 Q4FY18 are summarized in Appendix A. No permit deviations were reported by the Facility during Q4FY18. Note that as of June 30, 2018, the CAAI Facility has operated 256 days without an environmental excursion.

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 Q4FY18, the monthly emission concentrations of nitrogen oxides (NO_x) averaged 160.0 ppmdv, 159.3 ppmdv and 158.7 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 Q4FY18 the monthly emission concentration of stack sulfur dioxide (SO_2) averaged 1.3 ppmdv, 1.3 ppmdv, and 0.7 ppmdv for Boiler Nos. 1, 2, and 3, respectively. All of these stack SO_2 concentrations are significantly below the permit limit of 29 ppmdv @ 7% O_2.

6.3 Carbon Monoxide Emissions

During Q4FY18, the average CO emission concentrations on Boiler Nos. 1, 2, and 3 were 32.3 ppmdv, 31.0 ppmdv, and 28.0 ppmdv, respectively, and all are well within permit limits (100 ppmdv, hourly average).

6.4 Opacity

During Q4FY18, the average opacity for Boiler Nos. 1, 2, and 3 was 1.1%, 1.7%, and 1.4% respectively. All of these averages are significantly below the 10% (6-minute) average permit limit.

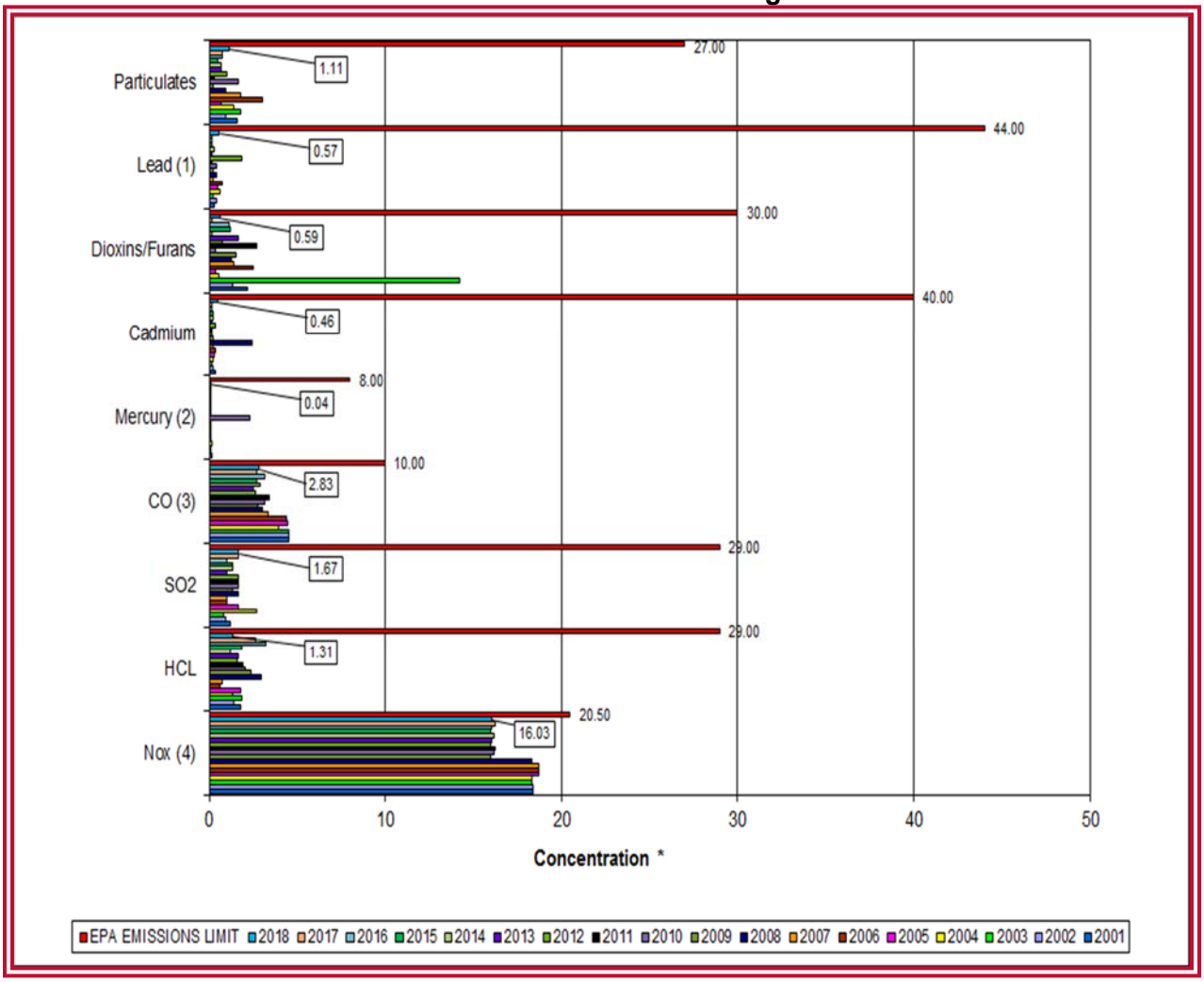
6.5 Daily Emissions Data

Appendix A, Tables 11, 12, and 13 tabulate the monthly average, maximum, and minimum emissions data for each unit during Q4FY18. 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 2018 Annual Stack Testing

Annual stack testing was conducted March 19th through March 21st, 2018 by Testar Inc. Historical stack test data including 2018 results are summarized in Chart 14 and Table 9. The 2018 test results demonstrate compliance well within the permit limits for all parameters. In addition to the tests required by the Facility permit, additional tests for small particulate matter (PM < 2.5) were conducted. While there are no current Facility regulatory limits established for PM < 2.5, average results for 2018 were 0.004 Gr/DSCF (grains per dry standard cubic foot) corrected to 7% O2, compared to the 2017 Annual Stack Testing PM <2.5 Results which averaged 0.003 Gr/DSCF corrected to 7% O2.

Chart 14: Stack Test Results through 2018



Note (1): Lead emissions have been decreased by a factor of 10 for trending purposes

Note (2): Mercury emissions have been decreased by a factor of 10 for trending purposes

Note (3): CO emissions have been decreased by a factor of 10 for trending purposes

Note (4): NO_x emissions have been decreased by a factor of 10 for trending purposes

Table 9: Stack Test Results through 2018

		NOx(4) (ppmdv)	HCL (ppmdv)	SO_2 (ppmdv)	CO(3) (ppmdv)	Mercury(2) (ug/dscm)	Cadmium (ug/dscm)	Dioxins/Furans (ng/dscm)	Lead(1) (ug/dscm)	Particulates (mg/dscm)	P.M. 2.5 (gr/dscf)
2010	Boiler 1	159	2.69	1	29	5.76	0.120		1.33	3.690	0.00410
	Boiler 2	158	0.67	1	28	29.50	0.032	0.35	3.00	0.914	0.00630
	Boiler 3	168	2.85	3	38	34.70	0.241		8.71	0.336	0.00990
	AVERAGE	**161.7**	**2.07**	**1.67**	**31.67**	**23.32**	**0.13**	**0.35**	**4.347**	**1.647**	**0.007**
2011	Boiler 1	167	2.15	2	28	0.36	0.140	2.67	1.72	0.130	0.00570
	Boiler 2	159	1.14	1	38	0.44	0.140		1.46	0.350	0.00690
	Boiler 3	161	2.40	2	37	0.36	0.110		1.47	0.350	0.00170
	AVERAGE	**162.3**	**1.90**	**1.67**	**34.33**	**0.39**	**0.13**	**2.67**	**1.550**	**0.277**	**0.005**
2012	Boiler 1	163	1.14	2	23	0.30	0.310		1.34	0.640	0.00932
	Boiler 2	156	2.02	2	29	0.34	0.250	**0.75**	6.52	1.280	0.00782
	Boiler 3	161	1.66	1	27	0.37	0.590		47.80	1.020	0.00679
	AVERAGE	**160.0**	**1.61**	**1.67**	**26.33**	**0.34**	**0.38**	**0.75**	**18.553**	**0.980**	**0.008**
2013	Boiler 1	164	1.48	1	28	0.36	0.134		1.45	0.637	0.00637
	Boiler 2	158	1.98	1	25	0.37	0.112	1.66	1.05	0.737	0.00475
	Boiler 3	159	1.52	1	22	0.42	0.137		3.03	0.733	0.00471
	AVERAGE	**160.3**	**1.66**	**1.00**	**25.00**	**0.38**	**0.13**	**1.66**	**1.843**	**0.702**	**0.005**
2014	Boiler 1	167	1.13	2	35	0.33	0.270	0.16	3.82	0.282	0.00337
	Boiler 2	157	1.02	1	35	0.35	0.183		2.52	1.240	0.00415
	Boiler 3	161	1.50	1	17	0.49	0.228		2.85	0.520	0.00425
	AVERAGE	**161.7**	**1.22**	**1.33**	**29.00**	**0.39**	**0.23**	**0.16**	**3.063**	**0.681**	**0.004**
2015	Boiler 1	164	1.80	2	25	0.32	0.102		1.00	0.513	0.00540
	Boiler 2	157	1.99	1	29	0.38	0.109		1.30	0.532	0.00410
	Boiler 3	159	1.71	1	27	0.39	0.409	1.21	3.04	0.499	0.00074
	AVERAGE	**160.0**	**1.83**	**1.33**	**27.00**	**0.36**	**0.21**	**1.21**	**1.778**	**0.515**	**0.003**
2016	Boiler 1	166	4.33	1.0	29	0.46	0.231		2.81	1.170	0.00680
	Boiler 2	156	3.46	1.0	37	0.43	0.154	1.16	1.13	0.657	0.00241
	Boiler 3	159	1.86	1.0	28	0.38	0.107		1.59	0.371	0.00456
	AVERAGE	**160.3**	**3.22**	**1.00**	**31.33**	**0.42**	**0.16**	**1.16**	**1.843**	**0.733**	**0.005**
2017	Boiler 1	171	1.41	2.0	33	0.49	0.169	0.17	1.99	0.860	0.00393
	Boiler 2	160	1.81	0.0	25	0.41	0.139		1.10	0.742	0.00160
	Boiler 3	156	4.71	3.0	23	0.37	0.115		1.28	0.561	0.00385
	AVERAGE	**162.3**	**2.64**	**1.67**	**27.00**	**0.42**	**0.14**	**0.17**	**1.457**	**0.721**	**0.003**
2018	Boiler 1	165	1.17	3.0	36	0.40	0.223		2.67	0.649	0.00839
	Boiler 2	158	0.99	1.0	25	0.42	0.909		11.20	2.040	0.00107
	Boiler 3	158	1.76	1.0	24	0.48	0.243	0.59	3.19	0.655	0.00200
	AVERAGE	**160.3**	**1.31**	**1.67**	**28.33**	**0.43**	**0.46**	**0.59**	**5.687**	**1.115**	**0.004**
	EPA EMISSIONS LIMIT	205	29	29	100	80	40	30	440	27	--
	Percent of Limit for 2018	**78.2%**	**4.5%**	**5.7%**	**28.3%**	**0.5%**	**1.1%**	**2.0%**	**1.3%**	**4.1%**	--

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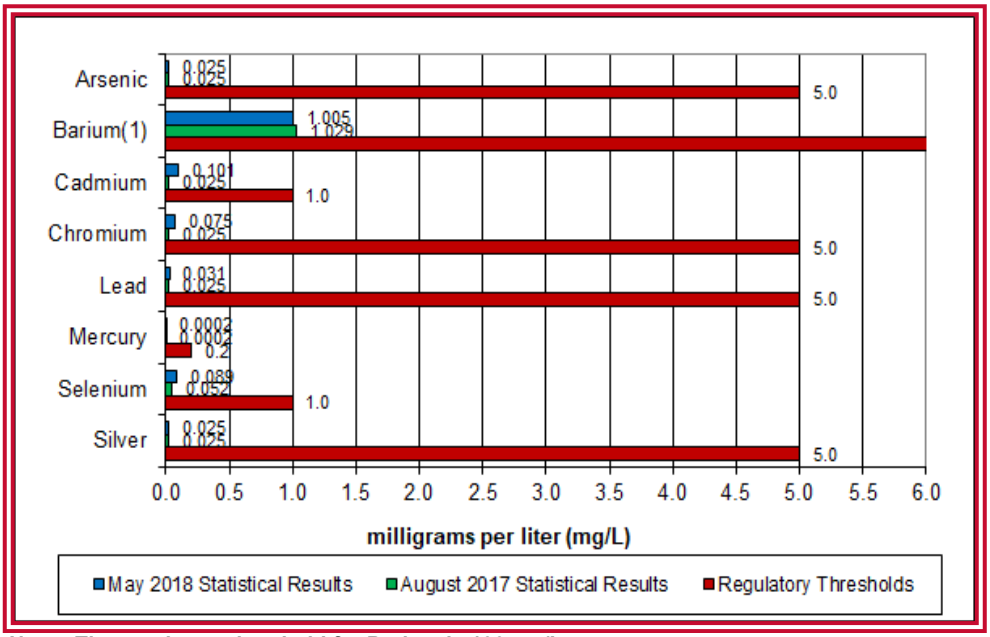
6.7 Ash System Compliance

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 April and May 2018, and results indicated that the average pH during testing was 10.1. Results from the TCLP testing conducted in May 2018 and August 2017 are depicted in Table 10 and Chart 15 below.

Table 10: Comparison of Statistical Results and Regulatory Thresholds for Metal Analytes

Metals	90% Upper Confidence (May 2018)	90% Upper Confidence (August 2017)	Regulatory Threshold (mg/L)	% of Threshold (May 2018)	% of Threshold (August 2017)
Arsenic	0.025	0.025	5.0	0.50%	0.50%
Barium	1.005	1.029	100.0	1.01%	1.03%
Cadmium	0.101	0.025	1.0	10.10%	2.50%
Chromium	0.075	0.025	5.0	1.50%	0.50%
Lead	0.031	0.025	5.0	0.62%	0.50%
Mercury	0.0002	0.0002	0.2	0.10%	0.10%
Selenium	0.089	0.052	1.0	8.90%	5.20%
Silver	0.025	0.025	5.0	0.50%	0.50%

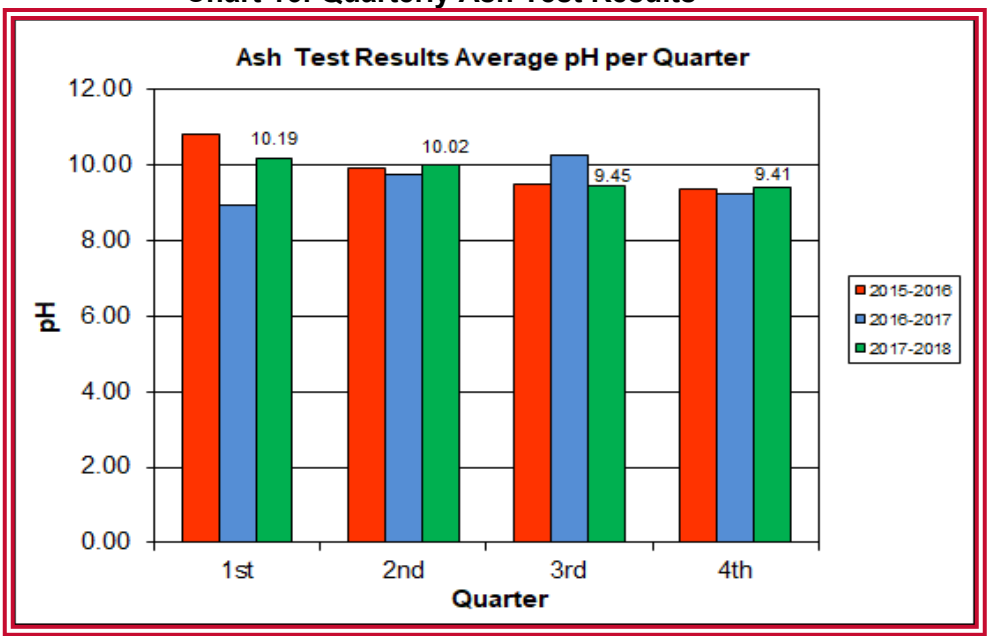
Chart 15: Ash Toxicity Characteristic Leaching Procedure (TCLP) Results



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 Q4FY17, the average ash pH for in-house tests was 9.4.

Chart 16: Quarterly Ash Test Results



APPENDIX A
FACILITY CEMS DATA

Table 11: 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
Apr - 18	AVG	86.9	36.0	1.0	41.0	160.0	1.2	300.0	15.1	3.1
	Max	89.4	48.0	3.0	50.0	162.0	1.5	301.0	15.5	3.3
	Min	80.2	21.0	0.0	34.0	157.0	0.9	299.0	14.9	2.9
May - 18	AVG	82.5	38.0	2.0	29.0	160.0	1.2	300.0	13.5	3.1
	Max	89.1	70.0	5.0	42.0	162.0	1.7	300.0	15.0	3.4
	Min	70.1	22.0	0.0	17.0	158.0	0.9	298.0	13.3	3.0
Jun - 18	AVG	79.8	28.0	1.0	27.0	160.0	0.8	299.0	13.3	3.1
	Max	85.4	42.0	2.0	54.0	162.0	1.2	301.0	13.4	3.3
	Min	69.6	20.0	0.0	11.0	158.0	0.7	299.0	13.2	2.9
Quarter Average		83.1	34.0	1.3	32.3	160.0	1.1	299.7	14.0	3.1
Quarter Max Value		89.4	70.0	5.0	54.0	162.0	1.7	301.0	15.5	3.4
Quarter Min Value		69.6	20.0	0.0	11.0	157.0	0.7	298.0	13.2	2.9
Limits:		98	NA	29	100	205	10	331	14(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 #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
Apr - 18	AVG	88.9	33.0	2.0	33.0	160.0	1.6	299.0	15.0	3.1
	Max	91.4	48.0	5.0	40.0	163.0	1.9	300.0	15.1	3.4
	Min	82.0	22.0	0.0	27.0	157.0	1.2	298.0	14.9	2.8
May - 18	AVG	83.6	31.0	1.0	32.0	159.0	2.0	299.0	13.5	3.2
	Max	89.4	54.0	6.0	45.0	160.0	2.2	299.0	15.1	4.9
	Min	71.1	21.0	0.0	21.0	158.0	1.8	298.0	13.3	2.9
Jun - 18	AVG	82.6	22.0	1.0	28.0	159.0	1.6	298.0	13.3	3.1
	Max	89.1	38.0	3.0	40.0	161.0	2.1	298.0	13.4	3.2
	Min	69.7	13.0	0.0	13.0	155.0	1.3	297.0	13.3	2.7
Quarter Average		85.0	28.7	1.3	31.0	159.3	1.7	298.7	13.9	3.1
Quarter Max Value		91.4	54.0	6.0	45.0	163.0	2.2	300.0	15.1	4.9
Quarter Min Value		69.7	13.0	0.0	13.0	155.0	1.2	297.0	13.3	2.7
Limits:		97	NA	29	100	205	10	331	14(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 13: 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
Apr - 18	AVG	89.7	28.0	0.0	31.0	159.0	1.2	299.0	15.1	3.0
	Max	93.1	40.0	3.0	42.0	164.0	1.7	302.0	15.6	3.4
	Min	82.3	17.0	0.0	24.0	156.0	0.8	296.0	15.0	2.8
May - 18	AVG	83.8	19.0	1.0	29.0	159.0	1.8	297.0	13.5	3.0
	Max	90.4	37.0	4.0	59.0	161.0	2.0	300.0	15.0	3.3
	Min	70.2	11.0	0.0	11.0	152.0	1.4	292.0	13.3	2.9
Jun - 18	AVG	84.5	47.0	1.0	24.0	158.0	1.2	298.0	13.3	3.0
	Max	91.3	72.0	8.0	48.0	160.0	2.0	302.0	13.3	3.2
	Min	71.0	7.0	0.0	10.0	152.0	0.8	295.0	13.3	2.6
Quarter Average		86.0	31.3	0.7	28.0	158.7	1.4	298.0	14.0	3.0
Quarter Max Value		93.1	72.0	8.0	59.0	164.0	2.0	302.0	15.6	3.4
Quarter Min Value		70.2	7.0	0.0	10.0	152.0	0.8	292.0	13.3	2.6
Limits:		99	NA	29	100	205	10	339	14(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 – MAY 2018

Figure 1: Perimeter fence is leaning at northeast corner of Facility Property – New Deficiency

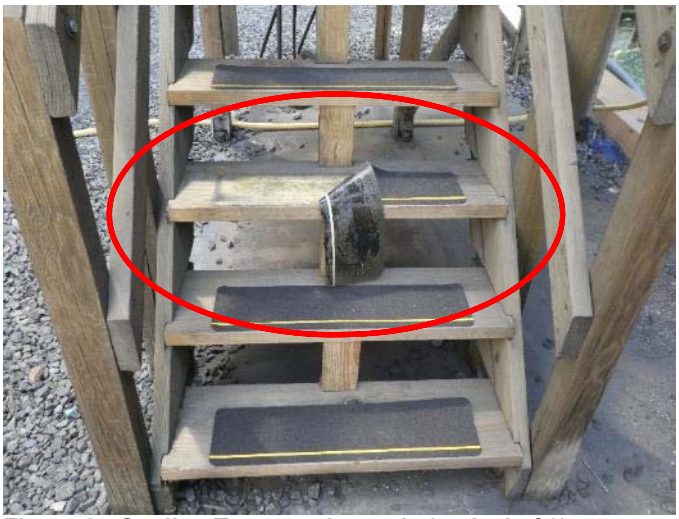


Figure 2: Cooling Tower stair treads (typical of 3) are detached – New Deficiency

Figure 3: Ferrous Magnet and Main Vibratory Pan

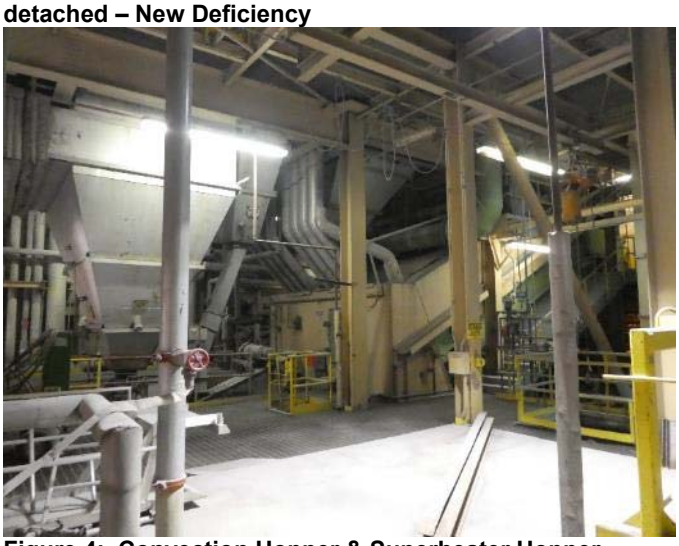


Figure 4: Convection Hopper & Superheater Hopper

Figure 5: Economizers

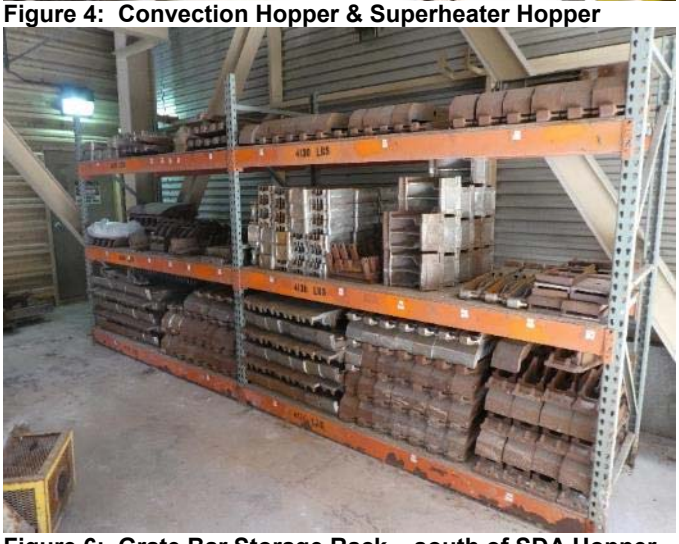


Figure 6: Grate Bar Storage Rack – south of SDA Hopper No. 1

Figure 7: Ash Load-Out Area

Figure 8: Economizer, ID Fan, Dolomitic Lime Silo, SDA – General APC Area

Figure 9: General Facility Photo – from Tipping Floor Entrance Road

Figure 10: Facility Scales & Scalehouse

Figure 11: General Facility Photo – from west of Facility up Eisenhower

Figure 12: General Facility Photo – Front (south side)

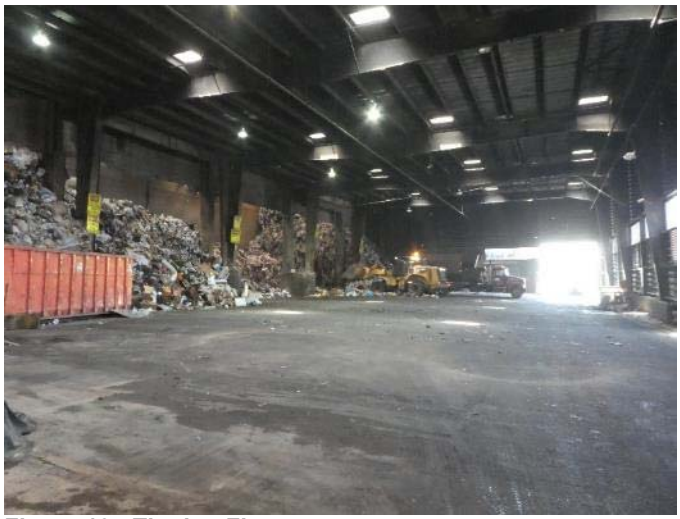


Figure 13: Tipping Floor

Figure 14: Forced Draft Fan

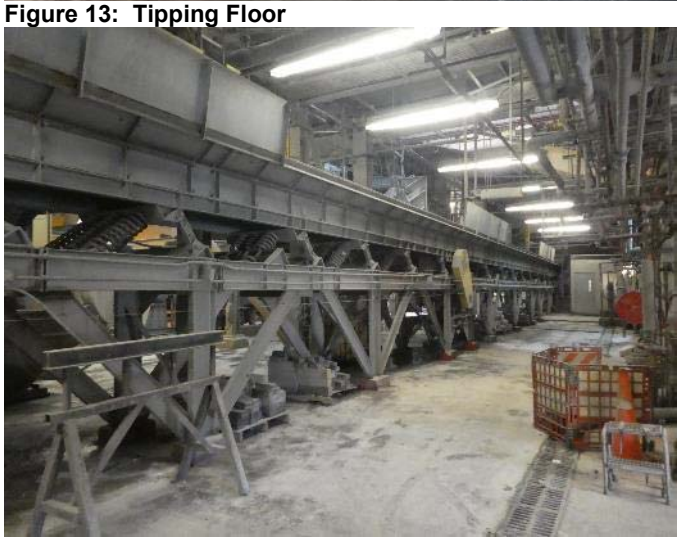


Figure 15: Main Vibrating Ash Conveyor

Figure 16: General Facility Photo – Entrance Road & Scalehouse from on top of TG Enclosure Roof

Figure 17: Induced Draft Fan & Continuous Emissions Monitoring Enclosure

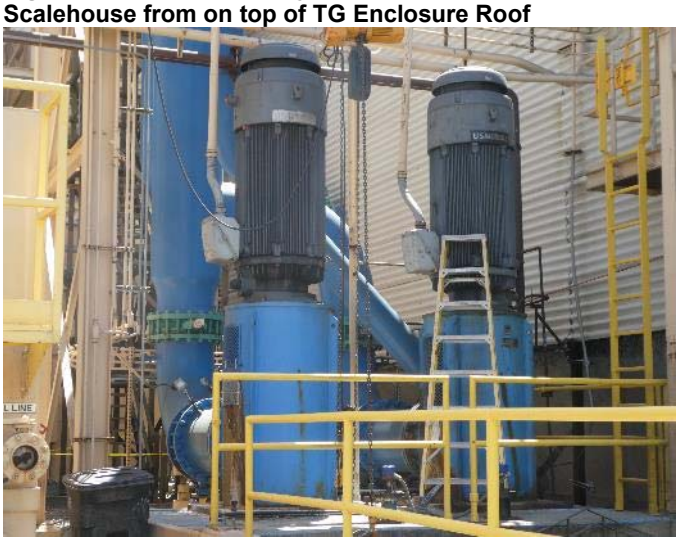


Figure 18: Circulating Water Pumps – east side of Cooling Tower

Figure 19: Covanta Mobile Equipment - Bobcat

Figure 20: Turbine Generators

Figure 21: Cooling Towers

Figure 22: SDA Penthouse No. 1 Enclosure

Figure 23: Refuse Pit from Charging Floor

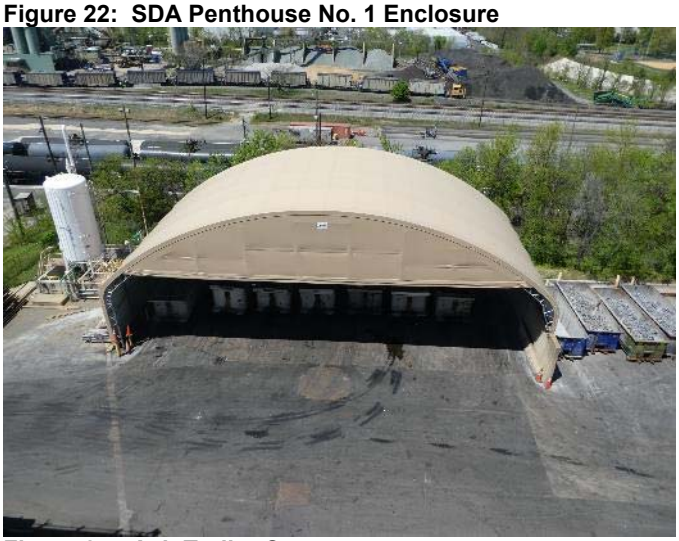


Figure 24: Ash Trailer Canopy

Figure 25: Deaerator

Figure 26: Auxiliary Burner

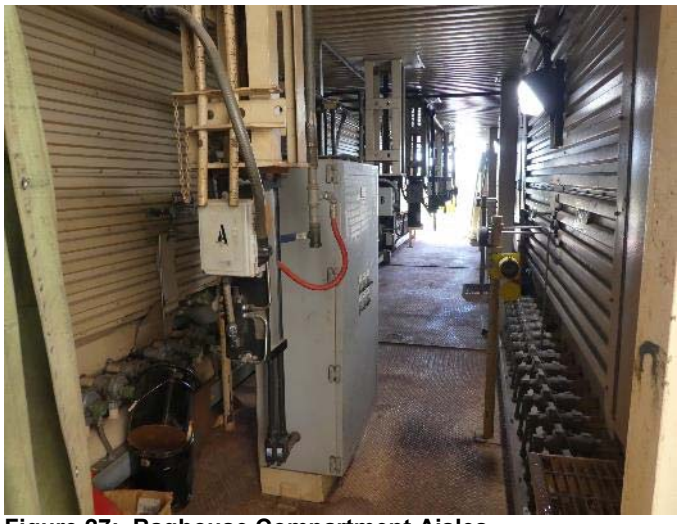


Figure 27: Baghouse Compartment Aisles

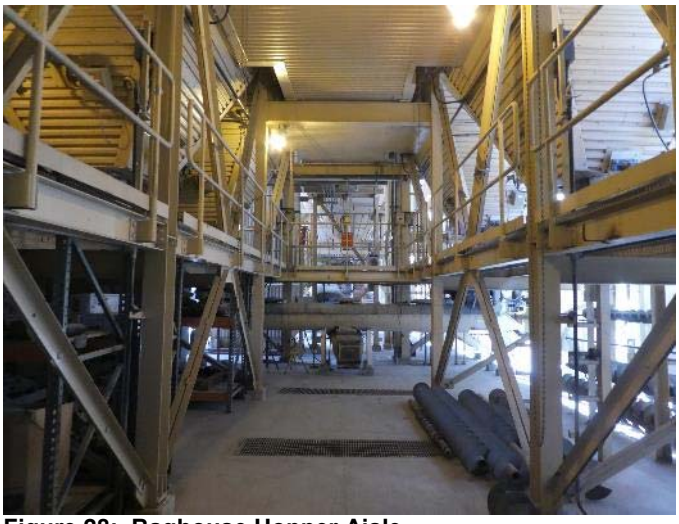


Figure 28: Baghouse Hopper Aisle

Figure 29: Infrared Camera Monitor in Control Room

Figure 30: Firing Aisle