



Alexandria Arlington Resource Recovery Facility



Fiscal Year 2021
Third Quarter Operations Report

May 2021

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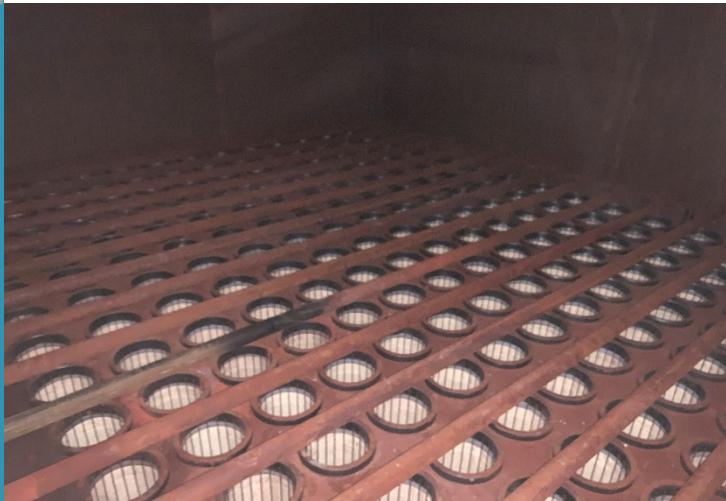


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Definition of Abbreviations & Acronyms

<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
HCI	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
Third	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

Third Quarter Operations Report – Fiscal Year 2021

1.0 Purpose of Report

HDR Engineering, Inc. (HDR) was authorized by the Facility Monitoring Group (FMG) to conduct quarterly site assessments and provide quarterly reports regarding the operation and maintenance of the Covanta Alexandria/Arlington Waste-to-Energy Facility (Facility) for the Third Quarter of the 2021 Fiscal Year. This report summarizes Facility operations between January 1, 2021 and March 31, 2021 and identifies the fiscal year beginning on July 1, 2020 as FY21 and the quarter beginning on January 1, 2021 as Q3FY21.

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 Q3FY21. The entire quarter was subject to additional protocols per Covanta corporate direction to address the Coronavirus Pandemic. The operation of the Facility, maintenance, safety, and overall cleanliness continue to be above average. Environmental performance was excellent with no reportable environmental excursions experienced during the quarter.

During Q3FY21, the boilers experienced five (5) instances of unscheduled downtime totaling 124.6 hours, and the turbine generators experienced two (2) instances of unscheduled downtime totaling 20.8 hours. All three boilers experienced scheduled maintenance outages during the quarter totaling 449.3 hours of downtime, and Boiler No. 2 experienced an additional instance of scheduled downtime for repairs on its induced draft fan totaling 3.3 hours. The

boilers experienced six (6) instances of standby downtime totaling 93.2 hours and the turbine generators experienced four (4) instances of standby downtime totaling 48.3 hours. A detailed listing of downtime is provided in Section 5.2 of this report.

Average waste processed during the quarter was 909.3 tons per day, or 93.3% of nominal facility capacity. Waste deliveries averaged 922.3 tons per day, which is slightly higher (1.4%) than the burn rate.

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 was slightly lower (less than 0.1%) compared to the corresponding quarter in FY20; steam production increased slightly (0.4%), and electricity generated (gross) increased (2.2%) from the corresponding quarter in FY20. The slight increase in steam generation is attributable to a slight increase in waste heating value (0.9%) offset by more boiler downtime (62.4 additional hours), and less operating time (24 fewer hours) as Q3FY20 had an extra day in February 2020 due to a Leap Year. The increase in electricity generated (gross) in Q3FY21 occurred despite more turbine generator downtime (121.7 additional hours) and less operating time (24 fewer hours) during the quarter due to 2020 being a leap year.

3.0 Facility Inspection and Records Review

In February 2021, HDR met with the Facility management and other plant personnel to discuss Facility operations and maintenance, perform an independent visual inspection of the operating Facility, photograph areas of interest, and perform a review of recent Facility activity. HDR obtained operating data and monthly reports electronically from CAAI throughout the quarter and 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 site assessments 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 site assessments are only performed quarterly, generally representing findings on the day of the assessment. 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	Pothole, 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	SDA Penthouse No. 3 Door deteriorated at base	November 2017	C	Patch and Paint Door – Replace if necessary	Status Unchanged	Open
4	Roof Ventilation Fan Not Working above Deaerator	May 2019	C	Repair roof ventilation fan	Complete	Closed
5	Deterioration behind lime slurry piping in SDA Penthouse No. 2	August 2019	C	Replace kick-plate and conduct painting preservation measures	During the February 2021 site visit, HDR observed that the kick plate had been replaced, but has not been painted.	Open
6	Siding deteriorated beneath Baghouse No. 3 Hoppers	August 2019	C	Replace siding	Status Unchanged	Open
7	Siding on north side of Baghouse No. 2 Deteriorated	February 2020	C	Replace siding and conduct painting preservation measures	Status Unchanged	Open
8	Siding on east side of Tipping Floor Enclosure corroded	February 2020	C	Patch siding and conduct painting preservation measures	Complete	Closed
9	Damaged/Missing insulation and lagging throughout Facility	August 2020	C	Perform audit of all steam piping and replace damaged/missing insulation and lagging throughout the Facility as needed	Status Unchanged	Open
10	Damaged overhead roll-up door at Main Condenser Enclosure	August 2020	C	Repair Roll-up Door	Complete	Closed
11	Steam valve leaking, northwest corner of Boiler No. 3 at Penthouse Elevation	August 2020	C	Repair/Repack steam valve	Complete	Closed
12	Emergency backup generator is out of service	August 2020	A	Repair or replace Emergency Backup Generator	Complete	Closed
13	Steam Valve (typical of 2 locations) Packing Leaking above Boiler Nos. 1 and 3	November 2020	C	Adjust/repair leaking packing	Complete	Closed
14	Roof Ventilation Fan above Boiler No. 3 is not operating	November 2020	C	Repair roof ventilation fan	Status Unchanged	Open

Item No.	Inspection Report Deficiencies	Issue Reported	Priority*	HDR Recommendation	Status	Open / Closed
15	Multiple ash hopper flap valves locked into the open position – See Figure 1 in Appendix B	February 2021	B	Repair ash hopper flap valves	Status Unchanged	Open
16	Boiler No. 1 Refuse Feed Hopper damaged on Charging Floor – See Figure 2 in Appendix B	February 2021	A	Repair damaged feed hopper	Complete	Closed
17	Steam leaks (multiple at various locations) around packing and valve stems around Boiler No. 1 and 3 – See Figure 3 in Appendix B	February 2021	C	Repair steam leaks or repack valves	Status Unchanged	Open
18	Insulation and lagging damaged/deteriorated around Boiler No. 3 Steam Drum – See Figure 4 in Appendix B	February 2021	C	Replace insulation and lagging	Status Unchanged	Open
19	Baghouse hopper heaters set to manual; heater off but signaling low temperature – See Figure 5 in Appendix B	February 2021	B	Repair hopper heaters	Status Unchanged	Open

4.0 Facility Performance

Monthly operating data provided by CAAI indicates that 81,839 tons of MSW were processed during Q3FY21, and a total of 83,003 tons of MSW including 2,712 tons of Special Handling Waste (3.3% by weight) were received. Total ash production during the quarter was 17,568 tons, which represents 21.5% of the waste processed by weight. The average uncorrected steam production rate for Q3FY21 was 3.01 tons_{steam}/ton_{waste}, which is slightly higher (0.5%) than the corresponding quarter in FY20 and reflected in the slight increase (0.9%) in the quarterly average waste heating value (HHV) calculated by CAAI.

Chart 1: Tons of Waste Processed

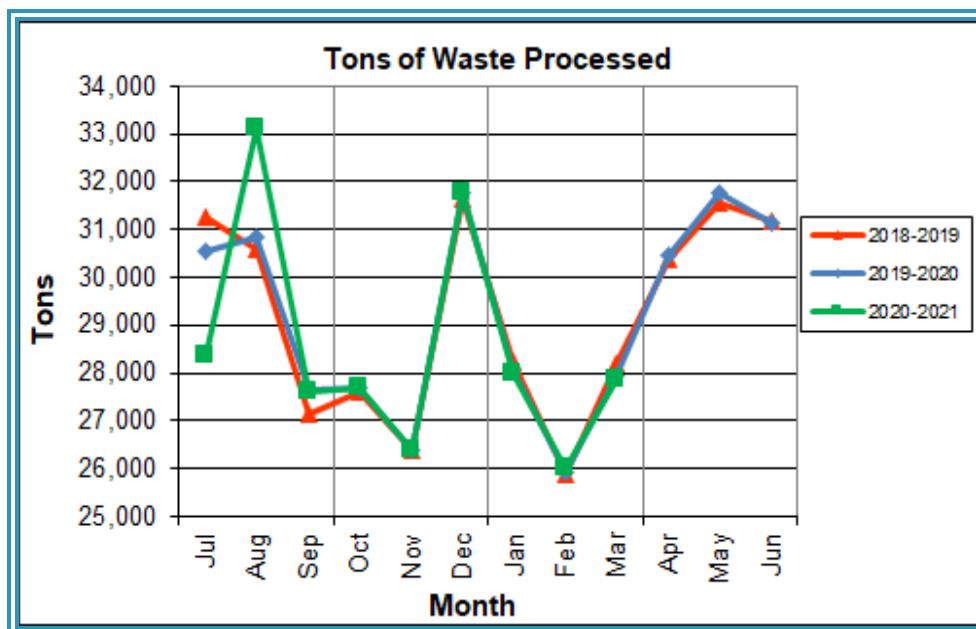


Chart 1 illustrates that Q3FY21 waste processed was slightly lower (less than 0.1%) than the corresponding quarter, Q3FY20. The slight decrease is attributable to more boiler downtime (62.4 additional hours), and less operating time (24 fewer hours) as Q3FY20 had an extra day in February 2020 due to a Leap Year. CAAI reported that 422 tipping floor/MSW internal inspections were conducted during the quarter and five (5) notices of violation (NOVs) were issued to haulers for the following issues:

- January 2021 – one (1) NOV was issued for leaving trash on the exit ramp

- February 2021 – one (1) NOV was issued for the driver using the restroom by the resident's roll-off
- March 2021 – three (3) NOVs were issued for:
 - Two (2) for excessive metal in the load
 - One (1) for having concrete in the load

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

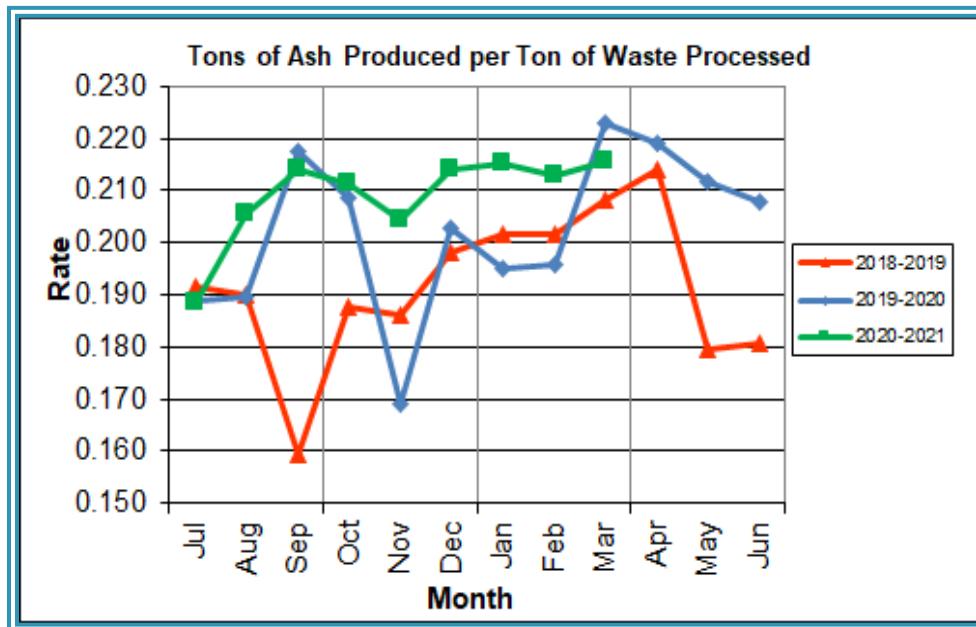


Chart 2 illustrates that the average ash production rate in Q3FY21 was higher (1.0%) at 21.5% of processed waste, compared to the corresponding quarter in FY20 when the rate was 20.5%. CAAI reports that it continues to process recovered metals through a trommel screen to remove some of the residual ash, which is quantified and added back into the monthly ash totals.

Chart 3: Ferrous Recovery Rate

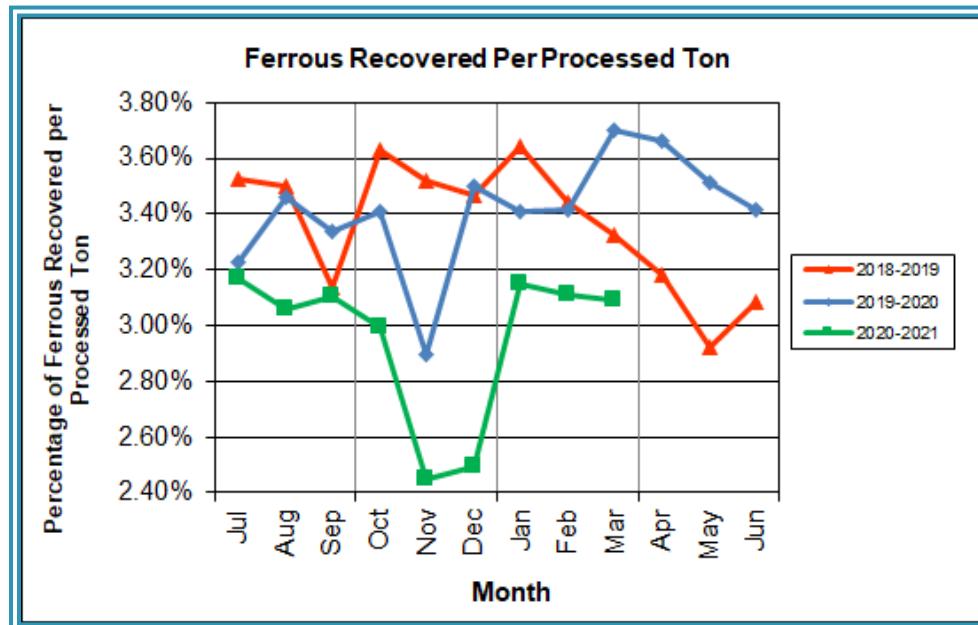
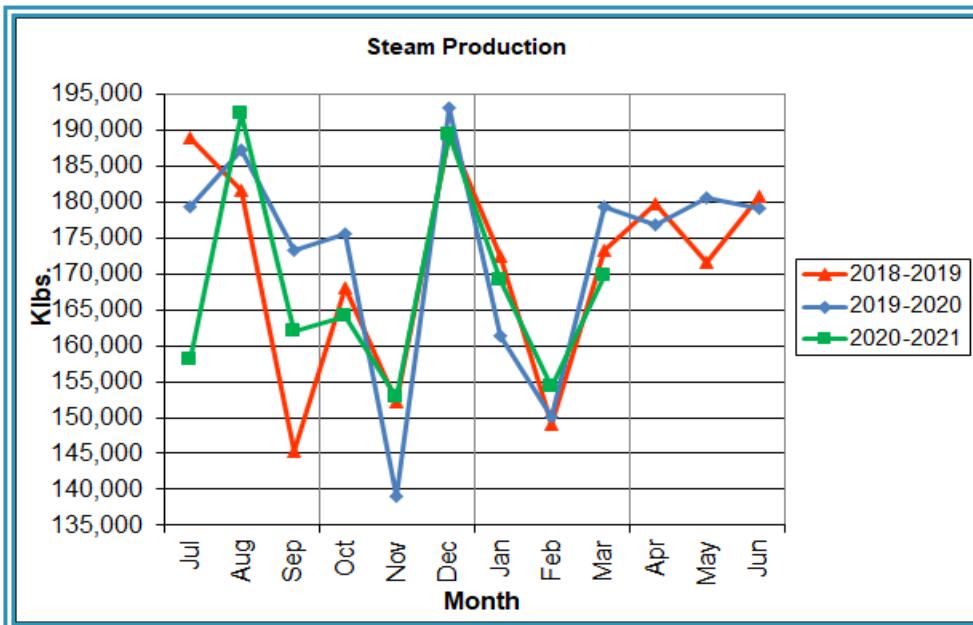


Chart 3 depicts the monthly ferrous metal recovery rate as a percentage of processed MSW tonnage. In Q3FY21, 2,551 tons of ferrous metals were recovered, which is 11.3% lower than the corresponding quarter in FY20 and equivalent to 3.1% of processed waste. As previously mentioned, the post-combustion recovered ferrous metals were processed through a trommel during the quarter to remove entrained ash, which results in a lower, but cleaner recovered metal tonnage.

Chart 4: Steam Production



In Chart 4, the total steam production for Q3FY21 was 493,019 klbs, and slightly higher (0.4%) than the corresponding quarter in FY20. The slight increase in steam generation is attributable to a slight increase in waste heating value (0.9%), offset by more boiler downtime (62.4 additional hours), and less operating time (24 fewer hours) as Q3FY20 had an extra day in February 2020 due to a Leap Year.

Chart 5: 12-Month Rolling Steam Production

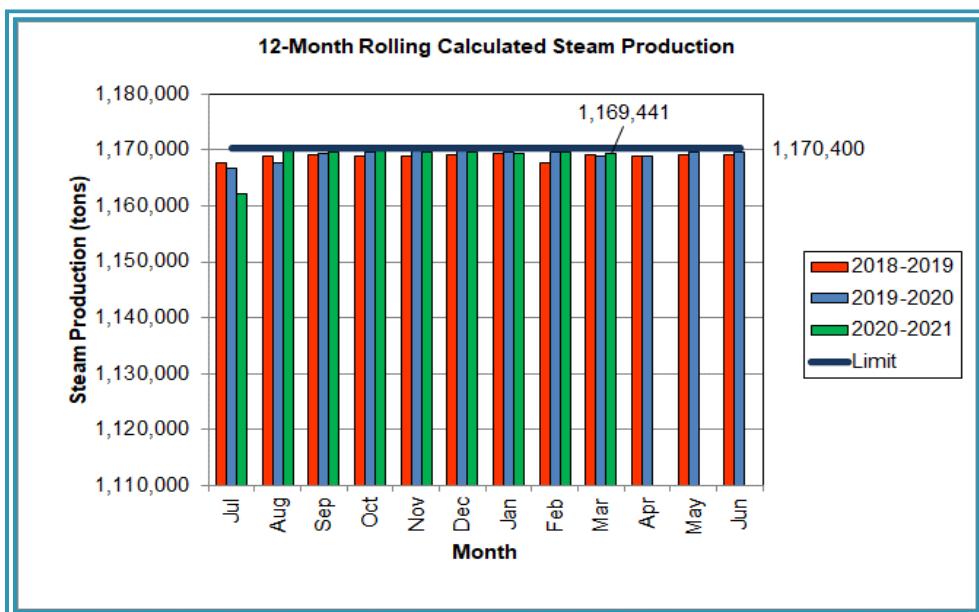
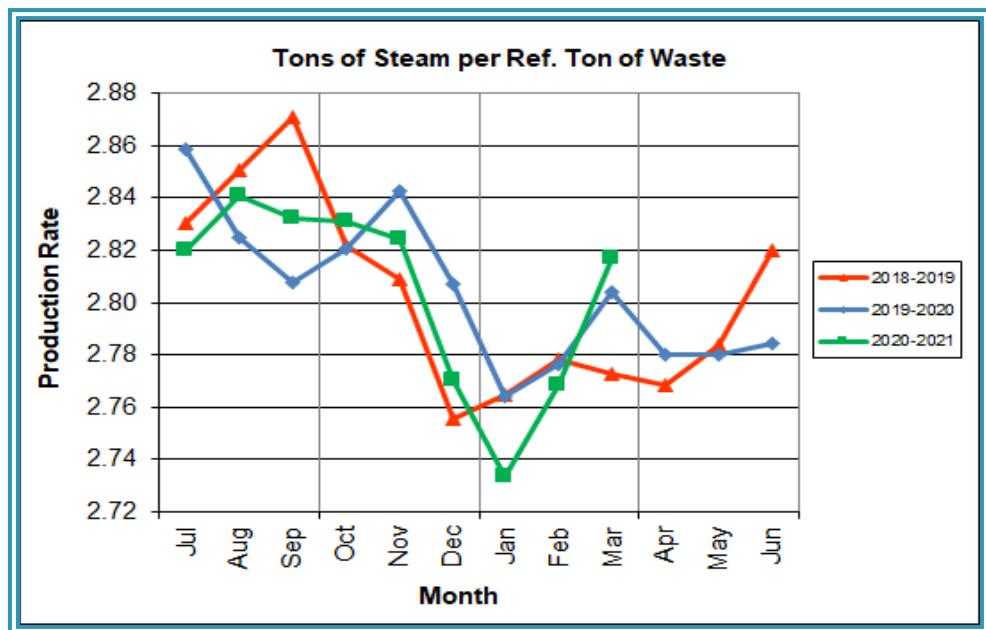


Chart 5 depicts the 12-month rolling steam production total for the quarter ending in March 2021, and for the prior two (2) fiscal years. According to the Title V permit,

the annual steam production for the Facility shall not exceed 1,170,400 tons based on 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 Q3FY21. The 12-month rolling total for steam production ending in March 2021 was 1,169,441 tons which is 99.9% of the limit. Chart 5 shows that Facility throughput, and in turn, steam and electricity production are being throttled to stay ever so slightly below the steam production permit limitation each 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 Q3FY21, this metric tracked slightly lower (0.4%) at 2.77 tons_{steam}/ton_{ref} compared to the corresponding quarter in FY20. The decrease in this metric indicates a slight decline in boiler performance.

Chart 7: Calculated Waste Heating Value

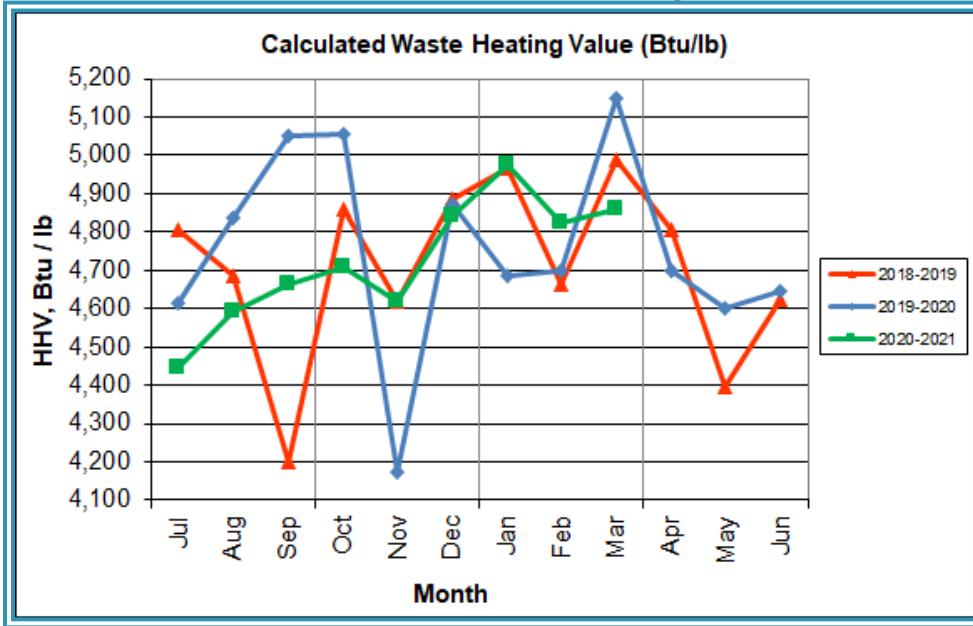


Chart 7 illustrates that Q3FY21 calculated average waste heating value was slightly higher (0.9%) at 4,887 Btu/lb than the corresponding quarter Q3FY20, which averaged 4,844 Btu/lb. Note that 9.3 inches of precipitation were recorded at Ronald Reagan National Airport in Q3FY21 compared to 8.2 inches of precipitation in Q3FY20 which is 13.1% higher¹. The increase in precipitation during Q3FY21 did not correlate with the increase in calculated average waste heating value, when compared to the same period in FY20.

¹ <https://www.wunderground.com/>

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)
Q3FY19	Quarterly Totals	82,325	0	16,787	2,592	2,856	494,761	34,931
	January-19	28,251	0	5,696	964	1,029	172,350	12,314
	February-19	25,895	0	5,218	743	891	149,123	10,284
	March-19	28,179	0	5,873	885	936	173,288	12,333
Q3FY20	Quarterly Totals	81,905	0	16,780	3,447	2,875	490,998	33,705
	January-20	28,049	0	5,474	1,239	957	161,447	11,230
	February-20	25,901	0	5,074	1,102	884	150,168	10,062
	March-20	27,955	0	6,232	1,106	1,034	179,383	12,413
Q3FY21	Quarterly Totals	81,839	0	17,568	2,712	2,551	493,019	34,619
	January-21	27,977	0	6,023	895	881	169,171	12,034
	February-21	25,989	0	5,536	1,070	808	154,201	10,769
	March-21	27,873	0	6,009	747	862	169,647	11,816
FY21 YTD Totals		256,772	0	53,688	8,303	7,584	1,511,542	104,754
FY20 Totals		350,147	0	70,964	13,226	11,966	2,074,819	143,282
FY19 Totals		350,057	0	67,068	11,778	11,756	2,052,153	142,430

Table 2 presents the production data provided to HDR by CAAI for Q3FY21 on both a monthly and quarterly basis. For purposes of comparison, data for Q3FY19 and Q3FY20 are also shown, as well as FY19, FY20 and FY21 year-to-date (YTD) totals.

In comparing quarterly totals, the data shows:

- Slightly less waste was processed in Q3FY21 than Q3FY20 and Q3FY19
- More steam was generated in Q3FY21 than Q3FY20 and less than Q3FY19
- More electricity (net) was generated in Q3FY21 than Q3FY20 and slightly less than Q3FY19
- Less supplemental waste was received in Q3FY21 than Q3FY20 and Q3FY19.

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 straight monthly basis.

Table 3: Waste Delivery Classification

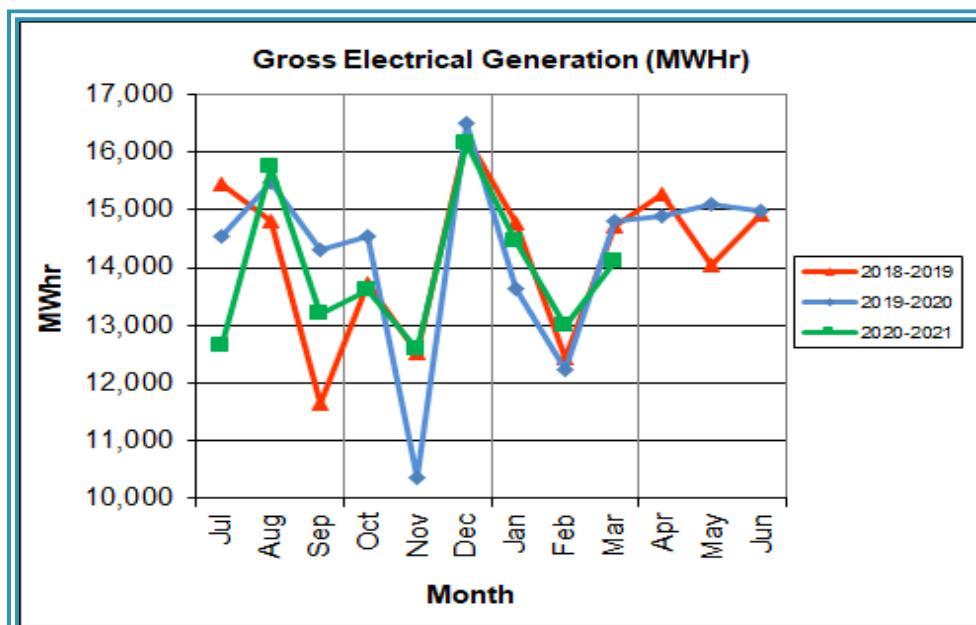
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY17	City Waste	1,678	1,836	1,668	1,722	1,817	1,708	1,597	1,452	1,604	1,882	2,170	2,002	21,136	6.06%
	County Waste	2,386	2,469	2,370	2,184	2,321	2,289	2,287	2,016	2,517	2,371	2,877	2,889	28,976	8.31%
	Municipal Solid Waste	24,862	26,976	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%
FY18		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
	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%
FY19	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	351,693	100.00%
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
	City Waste	1,848	1,836	1,823	1,996	1,892	1,732	1,823	1,458	1,614	2,063	2,442	1,882	22,409	6.43%
	County Waste	2,560	2,798	2,554	2,656	2,746	2,439	2,567	2,165	2,336	2,586	2,989	2,686	31,081	8.92%
	Municipal Solid Waste	25,442	25,920	21,873	21,678	21,472	23,046	21,455	21,975	24,323	28,361	25,444	22,197	283,185	81.27%
FY20	Supplemental Waste	1,012	1,040	1,138	1,108	992	933	964	743	885	895	1,038	1,029	11,777	3.38%
	MSW Totals	30,862	31,595	27,388	27,438	27,102	28,150	26,808	26,342	29,157	33,904	31,913	27,793	348,454	100.00%
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
	City Waste	2,070	1,771	1,726	1,894	1,742	1,844	1,870	1,489	1,925	1,931	1,849	2,051	22,160	6.30%
	County Waste	3,069	2,600	2,544	2,664	2,507	2,575	2,694	2,195	2,509	2,518	2,663	2,861	31,399	8.93%
FY21	Brokered Waste	-	-	-	-	-	-	120	114	67	58	-	-	359	0.10%
	Municipal Solid Waste	26,033	23,287	22,129	23,644	20,837	23,822	24,859	20,472	20,333	24,220	27,605	27,375	284,614	80.91%
	Supplemental Waste	1,269	1,321	1,236	1,340	1,238	1,246	1,239	1,102	1,106	582	627	920	13,226	3.76%
	MSW Totals	32,440	28,979	27,634	29,541	26,324	29,487	30,781	25,371	25,939	29,309	32,745	33,207	351,757	100.00%
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY21	City Waste	1,583	1,905	2,121	1,906	1,970	1,999	1,556	1,393	2,038				16,471	6.41%
	County Waste	2,377	2,713	2,711	2,589	2,550	2,646	2,365	2,054	2,441				22,447	8.74%
	Brokered Waste	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00%
	Municipal Solid Waste	22,517	26,941	24,523	22,102	19,209	25,831	22,419	20,046	25,980				209,570	81.61%
	Supplemental Waste	691	1,139	927	1,045	930	859	895	1,070	747				8,304	3.23%
FY21	MSW Totals	27,169	32,698	30,282	27,642	24,659	31,336	27,234	24,562	31,207				256,790	100.00%

Chart 8: Cumulative Total Waste Delivery



As depicted in Table 3 and Chart 8, for the quarter ending March 31, 2021, cumulative total waste delivery was 0.1% lower compared to the same period in FY20.

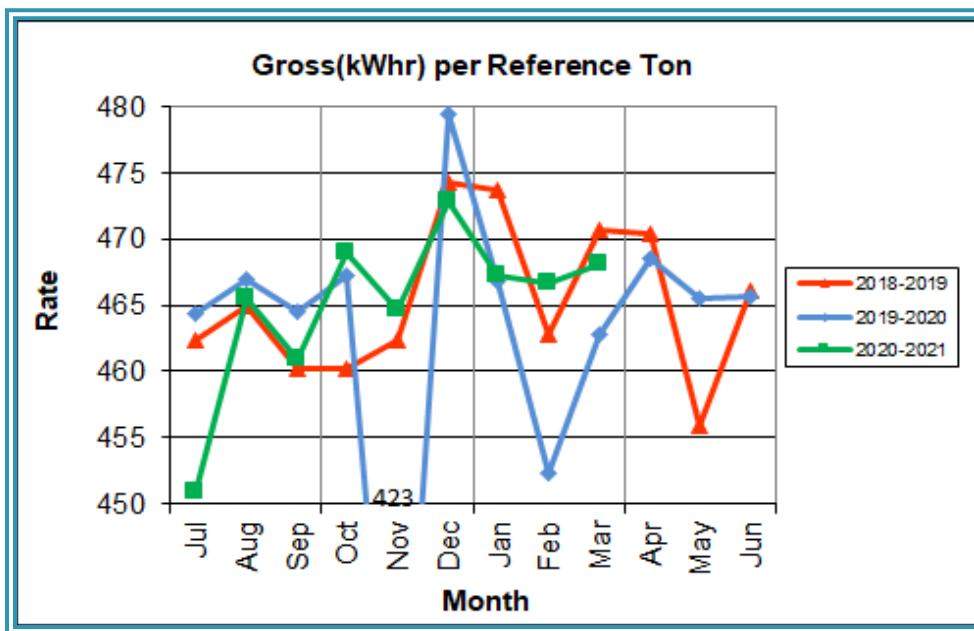
Chart 9: Gross Electrical Generation



During Q3FY21, the Facility generated 41,549 MWhrs (gross) of electricity compared to Q3FY20 generation of 40,665 MWhrs (gross), a 2.2% increase. The increase in electricity generated (gross) in Q3FY21 occurred despite more turbine

generator downtime (121.7 additional hours) and less operating time (24 fewer hours) during the quarter due to 2020 being a leap year. Note that the sharp spikes depicted in Chart Nos. 9 through 13 for November 2019 are a result of significant downtime (635.0 hours) experienced by Turbine Generator No. 1 for a Scheduled Major Overhaul.

Chart 10: Gross Conversion Rate



As shown in Chart 10, the average gross electrical generation per reference ton of refuse processed during Q3FY21 was 467 kWhr, which is higher (1.5%) than the corresponding quarter in FY20. 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

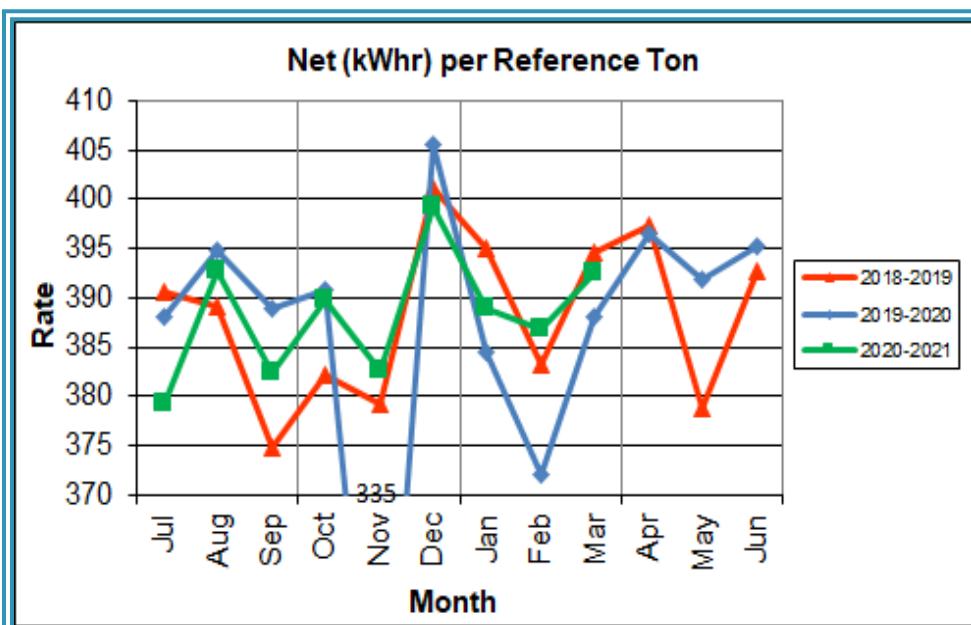


Chart 11 depicts the normalized net power (gross minus in-house usage) generation history. In Q3FY21, the average net electrical generation per reference ton was 389 kWhr, which is 2.0% higher than the corresponding quarter in FY20.

Chart 12: Net Conversion Rate

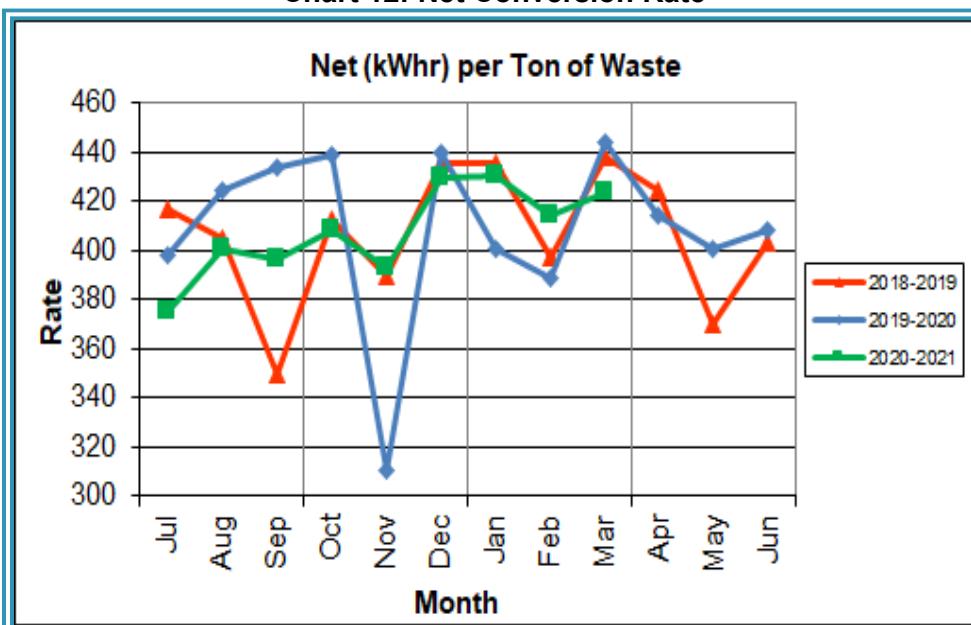


Chart 12 depicts the net power generation per processed ton. The net electrical generation per processed ton in Q3FY21 was 423 kWhr, which is 2.9% higher than the corresponding quarter.

Chart 13: Gross Turbine Generator Conversion Rate

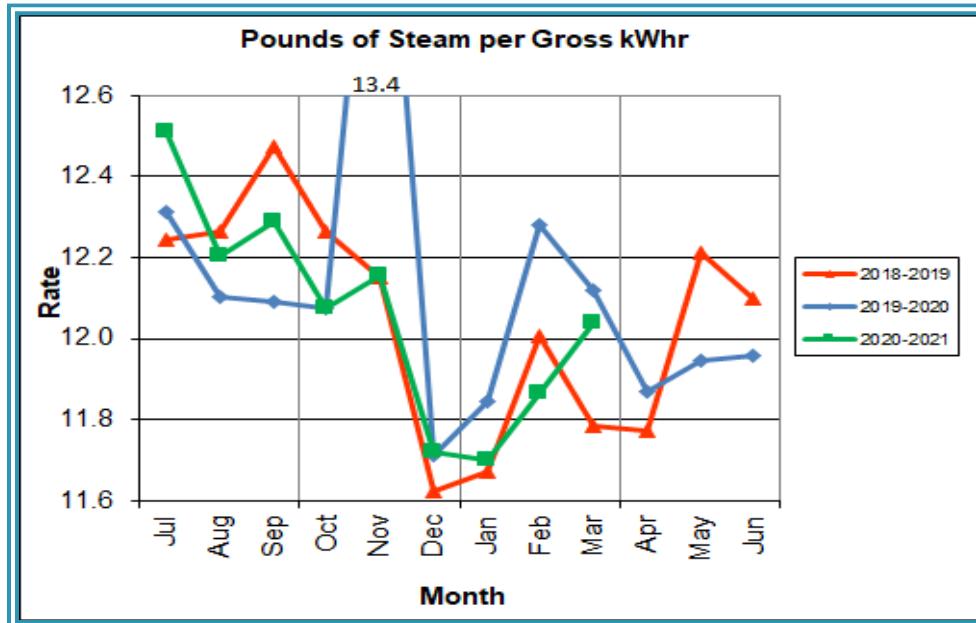


Chart 13 illustrates the quantities of steam required to generate one (1) kWh of electricity. This measure is a turbine generator performance indicator, where lower steam rates indicate superior performance. For simplification, this calculated rate is based on the average for the two turbine generators. In Q3FY21 the average pounds of steam consumed per gross kWh generated was 11.9, which is 1.7% lower (more efficient) than the corresponding quarter Q3FY20. A factor that negatively impacts this metric is Turbine Generator No. 2 continues to operate with its Stage 9 blades removed from the rotor². Another factor is the diversion of steam to heat under-grate air to improve the combustion of low Btu (wet) fuel. This steam diversion decreases power generation. The average main steam temperature during the quarter was 680.5°F, which is 6.0°F higher than the average main steam temperature of the corresponding quarter last fiscal year and 19.5°F lower than design temperature of 700°F. Lower main steam temperature decreases power generation, all other factors being equal.

² 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.

4.1 Utility and Reagent Consumptions

Table 4: Facility Utility and Reagent Consumptions

Utility	Units	Q3FY21 Total	Q3FY20 Total	Q3FY21 "Per Processed Ton" Consumption	Q3FY20 "Per Processed Ton" Consumption	FY21 YTD Total
Purchased Power	MWhr	5,476	5,537	0.0669	0.0676	16,237
Fuel Oil	Gal.	20,340	9,740	0.25	0.12	51,870
Boiler Make-up	Gal.	1,039,000	2,926,000	12.70	35.72	3,486,000
Cooling Tower Make-up	Gal.	28,080,006	28,910,106	343.11	352.97	104,280,613
Pebble Lime	Lbs.	1,718,000	1,318,000	20.99	16.09	4,876,000
Ammonia	Lbs.	184,000	163,000	2.25	1.99	531,000
Carbon	Lbs.	78,000	72,000	0.95	0.88	230,000

Fuel oil usage during the quarter represents approximately 0.38% of the total heat input to the boilers, which compares favorably with industry averages, and is slightly higher than the 0.18% of total heat input in Q3FY20. 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 1.8% of steam flow, which is significantly lower than the boiler makeup in Q3FY20 which was 5.0% of steam flow. Higher boiler makeup quantities are indicative of increased steam leakage, and the improvement in this metric indicates that the leaks have been substantially corrected. Pebble lime usage, at 1,718,000 lbs. is significantly higher (30.3%) than the corresponding quarter last year. CAAI reports that the significant increase in pebble lime usage is attributable to results from ash testing requiring an increase in lime slurry flow to maintain the required pH range. During Q3FY19, CAAI reported that it was discontinuing dolomitic lime feed, while increasing lime slurry feed (pebble lime) to stabilize ash pH levels. Ash pH levels in the range of 8 to 11 are desirable to minimize leaching potential of heavy metals. In comparing Q3FY21 to Q3FY20 on a per processed ton consumption basis:

- the purchased power consumption rate was 1.0% lower
- the total fuel oil consumption rate was 109.0% higher
- the boiler make-up water consumption rate was 64.5% lower
- the cooling tower make-up water consumption rate was 2.8% lower
- the total pebble lime consumption rate was 30.5% higher
- the ammonia consumption rate was 13.0% higher

- the carbon consumption rate was 8.4% higher

4.2 Safety & Environmental Training

The Facility experienced no OSHA recordable accidents and one (1) First Aid Accidents for an operator accidentally poking his eye while putting on his glasses. CAAI has operated 1,101 days without an OSHA recordable accident as of March 31, 2021. Safety and Environmental training were conducted with themes as follows:

January 2021

- Safety:
 - Avoiding slips, trips, and falls
 - Ice/Winter Slip hazards
 - Ladder Safety
 - Keeping your eyes on the path or task
- Environmental:
 - No environmental themes were reported by CAAI for January 2021

February 2021

- Safety:
 - Stop the drop
 - Fall Protection
 - Scaffolding
 - Rigging
- Environmental:
 - Sustainability at Covanta
 - Covanta Environmental Mission Statement
 - Stack Testing Maintenance and Pre-test Preparation
 - Stack Testing Communication and Compliance

March 2021

- Safety:
 - Machine Guarding
 - Power Tools
 - Grinders

- Behavioral Observations
- Environmental:
 - Waste Inspections – Minimizing Potential for Environmental Events
 - Authorized Waste Response Procedures

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 January 16, 2021, Boiler No. 3 experienced 158.7 hours of downtime for a scheduled maintenance boiler outage. Some significant activities that were completed during the outage are:

- Removal and replacement of all feed table bars
- Repair of the under-structure of the feed table
- Replacement of all feed ram bars
- Installation of 20 new triangular brake plates
- Installation of a 3'x4' patch on the feed chute
- Replacement of all the skirting on the feed chute
- Replacement of Zone Nos. 4 and 5 riddling chutes and cast flaps
- Installation of low lock and block drain valve on the economizer header
- Change-out of both drum safeties
- Repair of several sootblowers
- Patch of holes in the bottom of the SDA Cone
- Installation of the new ID Fan Damper
- Installation of the new preheater doors
- Installation of a new preheater bypass damper

Beginning February 6, 2021 Boiler No. 2 experienced 166.6 hours of downtime for a scheduled maintenance major boiler outage. Some significant activities that were completed during the outage are:

- Replacement of the SDA drain hose with hard pipe
- Repair of the drop-wall on the feed table
- Change out of the coupling and inboard bearing on the Induced Draft Fan
- Installation of 20 new triangular brake plates
- Installation of a 3'x6' patch on the feed chute
- Replacement of all the skirting on the feed chute
- Installation of new ammonia panels on both sides
- Installation of a low lock and block drain valve on the economizer header
- Change-out of both drum and superheater safeties
- Repair of several sootblowers
- Change-out of Run No. 1 Grate Drive Cylinder
- Rebuilt the bull nose access door
- Installation of the new preheater doors
- Installation of a new preheater bypass damper

On February 9, 2021, Boiler No. 1 experienced 3.3 hours of scheduled downtime to repair Boiler No. 1 Induced Draft Fan.

Beginning February 27, 2021 Boiler No. 1 experienced 124.0 hours of downtime for a scheduled maintenance boiler outage. Beginning March 12, 2021, a black plant outage was conducted for electrical in which the boilers experienced 116.5 hours total of standby downtime, and the turbine generators experienced 52.6 hours total of scheduled downtime, and 20.8 hours total of unscheduled downtime when the outage extended beyond the planned/budgeted downtime. Some significant activities that were completed during the Boiler No. 1 and Black Plant Outages are:

- Repair of two (2) stress cracks on the 3rd Pass Left Wall
- Repair of the drop wall on the feed table

- Addition of an air isolation valve for the HVAC room standpipe regulator
- Replacement of Zone Nos. 4 and 5 Riddling Chutes
- Repair of the expansion joint on the Induced Draft Fan Inlet ductwork
- Replacement of the insulation pads for the boiler viewports
- Installation of new ammonia panels on both sides
- Installation of a low lock and block drain valve on the economizer header
- Change-out of both drum and superheater safeties
- Repair of several sootblowers
- Replacement of the drain valve on the ash discharger
- Replacement of the SDA double dump upper flap
- Replacement of the trough for the ash discharger injection screw conveyor
- Replacement of the auxiliary cooling water strainer isolation valves
- Replacement of the EDG and ABT Transfer Switch
- Repairs to the No. 1 Hopper Feeder Breaker, and the emergency lighting panel breaker in support of the infrared testing discrepancies
- Supported the connection and disconnect for all lighting generators, and temporary power during the black plant outage
- Installation of a new turbine trip string controls for Turbine Generator No. 1
- Repair and replacement of various light fixtures and related switches, receptacles, and junction box covers as related to the safety committee walk-down snapshot findings, and safety audits
- Repair of the slurry flow rate between the DCS and CEMS on the No. 2 Boiler
- Repair of the remote reading on the DCS for the pebble lime silo transmitter not tracking
- Replacement of the motor starter contractor for the No. 2 ID Fan
- Installation of outside lighting receptacles
- Repair of the suction valve on the No. 1 Slurry Pump
- Replacement of the No. 1 Voltage Regulator for No. 2 Turbine Generator
- Adjustment of limits on the thermal drains on the control panel which were malfunctioning

- Repair of the Boiler No. 3 Ammonia detector which was indicating in alarm state
- Repair of the No. 3 Carbon Injection System which was not filling automatically

In addition to the scheduled outages, CAAI reports that 1,341 preventative maintenance actions were completed during the quarter.

5.1 Availability

Facility availabilities for Q3FY21 are shown in Table 5. According to CAAI reports, the average unit availabilities for Boiler Nos. 1, 2, and 3 for Q3FY21 were 92.4%, 87.8%, and 92.9%, respectively. The three-boiler average availability during the quarter was 91.1%, which was primarily negatively impacted by the 452.6 hours of scheduled downtime experienced by the boilers during the quarter. Note that the 93.2 hours of standby time experienced by the boilers during Q3FY21 were not factored into overall availability.

According to CAAI reports, the average unit availabilities for Turbine Generator Nos. 1 and 2 for Q3FY21 were 98.4%, and 98.3%, respectively. The two-turbine generator average availability during the quarter was 98.4%, and primarily negatively impacted by the black plant outage which resulted in a total of 73.4 hours of scheduled and unscheduled downtime experienced by the turbine generators. Note that 48.3 hours of standby time experienced by the turbine generators during Q3FY21 were not factored into overall availability.

Table 5: Quarterly Facility Unit Availabilities

Availability	Q1FY21 Average	Q2FY21 Average	Q3FY21 Average	FY21 YTD Average
Boiler No. 1	97.4%	86.1%	92.4%	92.0%
Boiler No. 2	96.4%	99.0%	87.8%	94.4%
Boiler No. 3	94.6%	98.4%	92.9%	95.3%
Avg.	96.1%	94.5%	91.1%	93.9%
Turbine No. 1	98.6%	98.5%	98.4%	95.3%
Turbine No. 2	98.6%	98.9%	98.3%	98.6%
Avg.	98.6%	98.7%	98.4%	97.0%

Table 6: Boiler Downtime – Q3FY21

Boiler Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
2	1/13/21	1/13/21	3.3	Unscheduled	Troubleshoot Induced Draft Fan runback issue
3	1/16/21	1/23/21	158.7	Scheduled	Boiler No. 3 Scheduled Outage
2	1/19/21	1/20/21	42.6	Unscheduled	Waterwall failure – Refractory Area
1	1/29/21	1/29/21	0.5	Unscheduled	Repair of Overfire Air Fan bearing and coupling
1	2/9/21	2/9/21	3.3	Scheduled	Boiler No. 1 Induced Draft Fan Repair
2	2/6/21	2/13/21	166.6	Scheduled	Boiler No. 2 Scheduled Outage
1	2/27/21	3/4/21	124.0	Scheduled	Boiler No. 1 Scheduled Outage
1	3/5/21	3/6/21	37.5	Unscheduled	Waterwall leak on startup
2	3/12/21	3/13/21	25.0	Standby	Black plant outage for electrical work
3	3/12/21	3/14/21	34.5	Standby	Black plant outage for electrical work
1	3/13/21	3/14/21	32.0	Standby	Black plant outage for electrical work
2	3/14/21	3/15/21	40.7	Unscheduled	Induced Draft Fan Repairs
1	3/18/21	3/18/21	0.4	Standby	Dominion fault causing plant tie to open
2	3/18/21	3/18/21	0.4	Standby	Dominion fault causing plant tie to open
3	3/18/21	3/18/21	0.9	Standby	Dominion fault causing plant tie to open
Total Unscheduled Downtime					124.6 Hours
Total Scheduled Downtime					452.6 Hours
Total Standby Downtime					93.2 Hours
Total Downtime					670.4 Hours

Table 7: Turbine Generator Downtime – Q3FY21

Turbine Generator Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
2	1/19/21	1/20/21	42.9	Standby	Lack of steam due to boiler outages
2	2/9/21	2/9/21	4.4	Standby	Lack of steam due to ID Fan No. 1 Repair
1	3/12/21	3/13/21	24.5	Scheduled	Black plant outage for electrical work
2	3/12/21	3/13/21	28.1	Scheduled	Black plant outage for electrical work
2	3/14/21	3/14/21	8.8	Unscheduled	Black plant outage for electrical work - Extension
1	3/14/21	3/14/21	12.0	Unscheduled	Black plant outage for electrical work - Extension
1	3/18/21	3/18/21	0.4	Standby	Dominion fault causing plant tie to open
2	3/18/21	3/18/21	0.6	Standby	Dominion fault causing plant tie to open
Total Unscheduled Downtime					20.8 Hours
Total Scheduled Downtime					52.6 Hours
Total Standby Downtime					48.3 Hours
Total Downtime					121.7 Hours

5.2 Facility Housekeeping

CAAI is performing Facility housekeeping and maintaining plant cleanliness in accordance with acceptable industry practices. A site walkdown was conducted in February 2021. At the time of the walkdown, new deficiencies were recorded, and prior deficiencies were given a status update. Photos of interest from the

walkdown are depicted in Appendix B. The Facility housekeeping ratings from the February 2021 walkdown are presented in Table 8.

Table 8: Facility Housekeeping Ratings – February 2021

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 Q3FY21 are summarized in Appendix A. No permit deviations were reported by the CAAI during Q3FY21 and as of March 31, 2021, the Facility operated 239 days without an environmental excursion.

Annual stack testing was conducted on March 22, 2021 through March 24, 2021, and as of this writing, results have not been distributed to HDR for review. Summary stack testing results will be included in tabular and graphical form in the Q4FY21 Annual Operations Report.

6.1 Low NO_x Technology Implementation

The Virginia Department of Environmental Quality (VADEQ) has issued the final RACT permits for the installation and operation of LN™ Technology. During November 2020, Boiler No. 1 was retrofitted with LN™ Technology, including the installation of all associated ductwork, nozzles, and controls. Boiler No. 1 will undergo a period calibration and optimization which is expected to be finalized in the Spring of 2021.

Boiler No. 2 has been operating under the lower NOx limits of 110 ppm (24 hr) and 90 ppm (annual rolling average), since the end of June 2020. CAAI indicated that it plans to install the LN™ Technology on Boiler No. 3 in Fall of 2021.

6.2 Nitrogen Oxide Emissions

During Q3FY21, the monthly emission concentrations of nitrogen oxides (NO_x) averaged 159.7 ppmdv, 82.7 ppmdv, and 159.0 ppmdv for Boiler Nos. 1, 2, and 3, respectively. As previously mentioned, the LN™ Technology was installed on Boiler No. 1 in November 2020 and will undergo a period of calibration and optimization before operating under the lower NOx limits of 110 ppm (24 hr) and 90 ppm (annual rolling average). CAAI continued to operate the Boiler Nos. 1 and 3 at the lower (160 ppmdv) set-points. In comparing Q3FY21 to the corresponding quarter last year, ammonia usage increased 12.9% while Boiler No. 2 operated at 50% NOx reduction.

6.3 Sulfur Dioxide Emissions

During Q3FY21 the monthly emission concentration of stack sulfur dioxide (SO₂) averaged 1.3 ppmdv, 1.3 ppmdv, and 1.0 ppmdv for Boiler Nos. 1, 2, and 3, respectively. All these stack SO₂ concentrations are significantly below the permit limit of 29 ppmdv @ 7% O₂.

6.4 Carbon Monoxide Emissions

During Q3FY21, the monthly average CO emission concentrations on Boiler Nos. 1, 2, and 3 were 35.7 ppmdv, 42.0 ppmdv, and 20.7 ppmdv, respectively, and all are well within permit limits (100 ppmdv, 4-hour average).

6.5 Opacity

During Q3FY21, the average opacity on Boiler Nos. 1, 2, and 3 were 0.5%, 1.3%, and 1.5%, respectively, which are all significantly below the 10% (6-minute) average permit limit.

6.6 Daily Emissions Data

Appendix A, Tables 10, 11, and 12 tabulate the monthly average, maximum, and minimum emissions data for each unit during Q3FY21. 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.

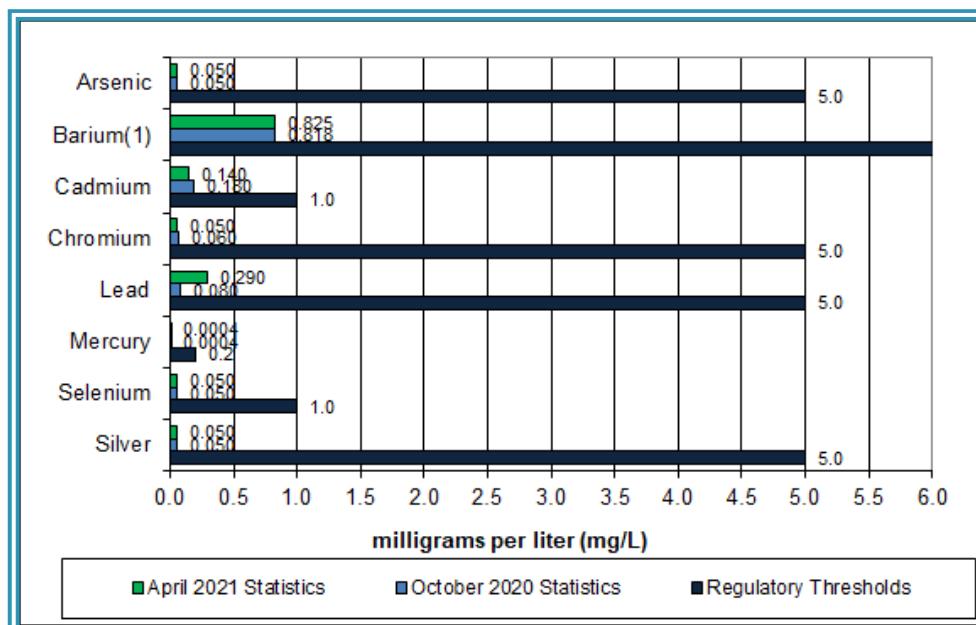
6.7 Ash System Compliance

During Q3FY19, CAAI reported that it was discontinuing dolomitic lime feed, while increasing lime slurry feed to stabilize the ash pH to levels that will allow eliminating dolomitic lime to condition the ash going forward. The desired ash pH level ranges from 8.0 to 11.0. Ash Toxicity (TCLP) tests were performed for field samples collected during March and April 2021, and results indicated that the average pH during testing was 10.2. Results from the TCLP testing conducted in October 2020 and April 2021 are depicted in Table 9 and Chart 14 below.

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

Metals	90% Upper Confidence (April 2021)	90% Upper Confidence (October 2020)	Regulatory Threshold (mg/L)	% of Threshold (April 2021)	% of Threshold (October 2020)
Arsenic	0.050	0.050	5.0	1.00%	1.00%
Barium	0.825	0.818	100.0	0.83%	0.82%
Cadmium	0.140	0.180	1.0	14.00%	18.00%
Chromium	0.050	0.060	5.0	1.00%	1.20%
Lead	0.290	0.080	5.0	5.80%	1.60%
Mercury	0.0004	0.0004	0.2	0.20%	0.20%
Selenium	0.050	0.050	1.0	5.00%	5.00%
Silver	0.050	0.050	5.0	1.00%	1.00%

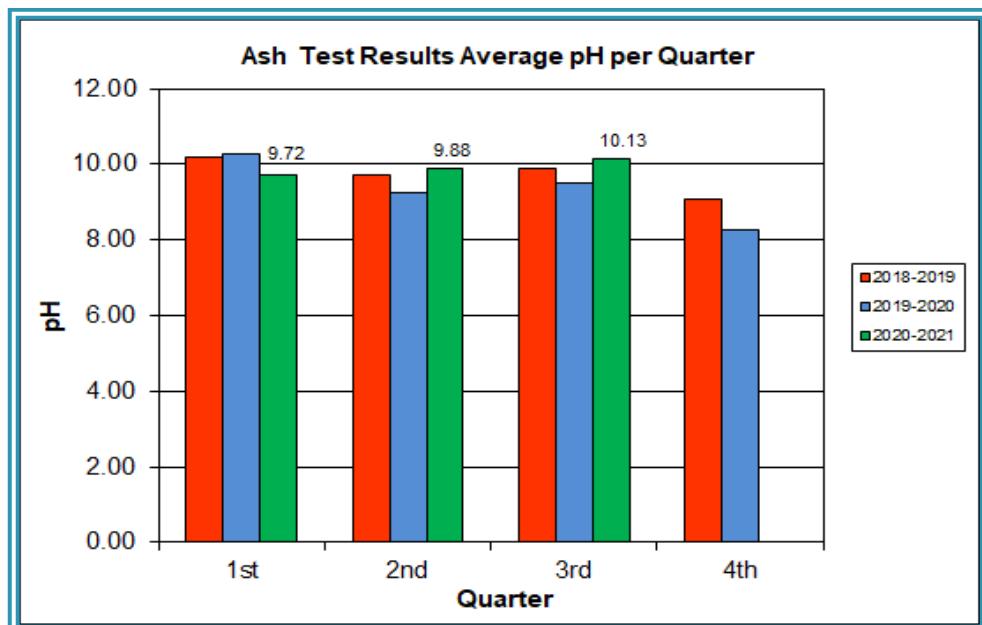
Chart 14: Ash Toxicity Characteristic Leaching Procedure (TCLP) Results



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

CAAI also samples ash monthly in-house, and documents pH reading to adjust lime feed rate. The results for the ash pH tests are found below in Chart 15 where each quarter is represented by the average of the respective monthly readings. During Q3FY21, the average ash pH for in-house tests was 10.1.

Chart 15: 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.	SteamFl	SO ₂ ec	SO ₂ sc	COsc	NO _x sc	Opacity	FF InTemp	Carblnj	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	
Jan - 21	AVG	82.4	17.0	1.0	35.0	160.0	0.1	300.0	12.3	3.9
	Max	88.3	31.0	6.0	45.0	167.0	0.4	300.0	12.4	4.4
	Min	77.6	9.0	0.0	25.0	157.0	0.0	300.0	12.3	3.6
Feb - 21	AVG	79.6	12.0	1.0	37.0	159.0	0.1	300.0	12.3	4.0
	Max	82.9	39.0	3.0	46.0	160.0	0.4	300.0	12.7	4.5
	Min	75.0	2.0	0.0	26.0	156.0	0.0	298.0	12.2	3.4
Mar - 21	AVG	82.9	43.0	2.0	35.0	160.0	1.3	300.0	12.3	4.1
	Max	88.1	86.0	4.0	226.0	164.0	1.9	300.0	13.2	4.5
	Min	73.7	28.0	0.0	17.0	145.0	0.1	292.0	11.2	3.5
Quarter Average		81.6	24.0	1.3	35.7	159.7	0.5	300.0	12.3	4.0
Quarter Max Value		88.3	86.0	6.0	226.0	167.0	1.9	300.0	13.2	4.5
Quarter Min Value		73.7	2.0	0.0	17.0	145.0	0.0	292.0	11.2	3.4
Limits:		99	NA	29	100	205	10	331	12(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.	SteamFl	SO ₂ ec	SO ₂ sc	COsc	NO _x sc	Opacity	FF InTemp	Carblnj	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	
Jan - 21	AVG	83.4	32.0	1.0	44.0	83.0	0.9	304.0	12.3	4.1
	Max	88.5	63.0	9.0	75.0	85.0	1.3	306.0	12.3	4.4
	Min	77.8	10.0	0.0	35.0	81.0	0.8	302.0	12.2	3.6
Feb - 21	AVG	86.5	51.0	1.0	42.0	82.0	1.7	303.0	12.3	4.5
	Max	90.1	93.0	4.0	72.0	88.0	2.4	306.0	12.9	4.8
	Min	76.9	25.0	0.0	25.0	81.0	0.7	299.0	12.2	4.0
Mar - 21	AVG	86.6	47.0	2.0	40.0	83.0	1.3	299.0	12.3	4.4
	Max	89.3	63.0	5.0	50.0	87.0	2.1	306.0	12.9	4.7
	Min	79.4	37.0	0.0	26.0	81.0	1.1	296.0	12.2	3.9
Quarter Average		85.5	43.3	1.3	42.0	82.7	1.3	302.0	12.3	4.3
Quarter Max Value		90.1	93.0	9.0	75.0	88.0	2.4	306.0	12.9	4.8
Quarter Min Value		76.9	10.0	0.0	25.0	81.0	0.7	296.0	12.2	3.6
Limits:		98	NA	29	100	110	10	330	12(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
Jan - 21	AVG	84.0	33.0	1.0	21.0	159.0	1.7	296.0	12.6
	Max	90.7	88.0	5.0	30.0	162.0	2.6	298.0	14.8
	Min	79.3	11.0	0.0	14.0	156.0	1.3	271.0	12.2
Feb - 21	AVG	87.8	30.0	1.0	21.0	160.0	1.7	298.0	12.3
	Max	91.0	37.0	4.0	28.0	167.0	2.3	298.0	12.4
	Min	83.0	19.0	0.0	12.0	156.0	1.2	297.0	12.2
Mar - 21	AVG	87.5	31.0	1.0	20.0	158.0	1.0	298.0	12.4
	Max	89.5	44.0	4.0	30.0	160.0	1.9	299.0	12.9
	Min	79.7	21.0	0.0	5.0	154.0	0.6	297.0	12.2
Quarter Average		86.4	31.3	1.0	20.7	159.0	1.5	297.3	12.4
Quarter Max Value		91.0	88.0	5.0	30.0	167.0	2.6	299.0	14.8
Quarter Min Value		79.3	11.0	0.0	5.0	154.0	0.6	271.0	12.2
Limits:		98	NA	29	100	205	10	332	12(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 – FEBRUARY 2021



Figure 1: Multiple ash hopper flap valves locked into the open position – New Deficiency



Figure 2: Boiler No. 1 Refuse Feed Hopper damaged on Charging Floor – New Deficiency



Figure 3: Steam leaks (multiple at various locations) around packing and valve stems around Boiler No. 1 and 3 – New Deficiency



Figure 4: Insulation and lagging damaged/deteriorated around Boiler No. 3 Steam Drum – New Deficiency



Figure 5: Baghouse hopper heaters set to manual; heater off but signaling low temperature – New Deficiency

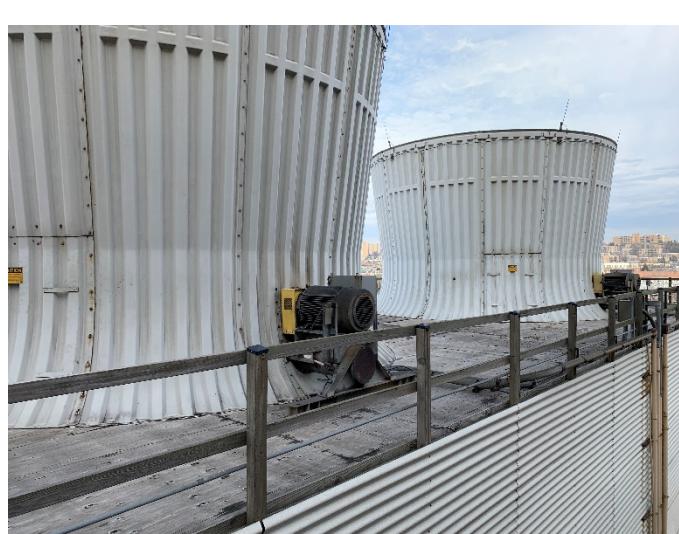


Figure 6: Cooling Tower Deck



Figure 7: Rental generator still on standby for emergency generator that is out of service



Figure 8: Entrance Roadway



Figure 9: Tipping Floor Operations



Figure 10: Condensate Pumps at ground elevation



Figure 11: New man doors on Forced Draft Fan ductwork



Figure 12: Turbine Generator No. 1



Figure 13: Refuse pit from southwest corner of Charging Floor



Figure 14: Scaffolding inside Boiler No. 2 First Pass (Furnace) – Boiler No. 2 Mini Outage In Progress



Figure 15: Scaffolding inside Boiler No. 2 Furnace – Boiler No. 2 Mini Outage In Progress



Figure 16: Dolomitic Lime Silo, Cooling Towers, Carbon Silo and scaffolding/outage materials on deck west of Economizer Sections

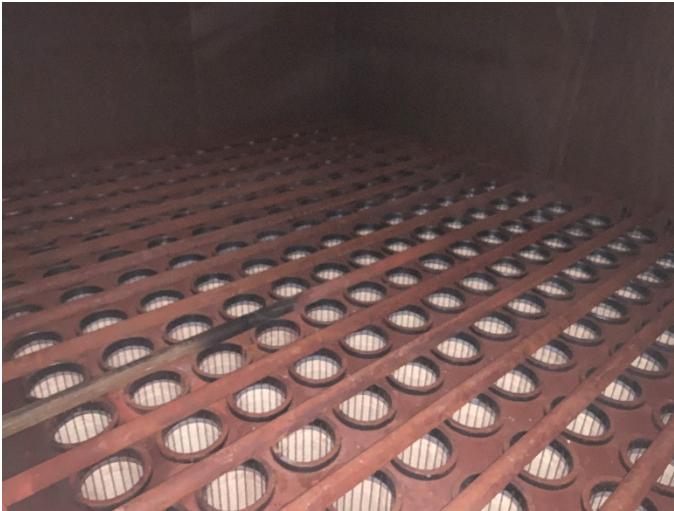


Figure 17: Baghouse No. 2 Compartment – Bags and Cages – Boiler No. 2 Mini Outage In Progress



Figure 18: Deaerator



Figure 19: Ash Trailers and Canopy



Figure 20: General Facility View – East Side



Figure 21: Ash/Metal Load Out Area – Between Metal Roll-off



Figure 22: Circulation Water Pump No. 2 out for rebuild following motor failure in late January 2021



Figure 23: Cooling Towers at ground elevation



Figure 24: Carbon Feed Hoppers at ground elevation of Carbon Silo