Alexandria Arlington Resource Recovery Facility

Fiscal Year 2024

First Quarter Operations Report

November 2023

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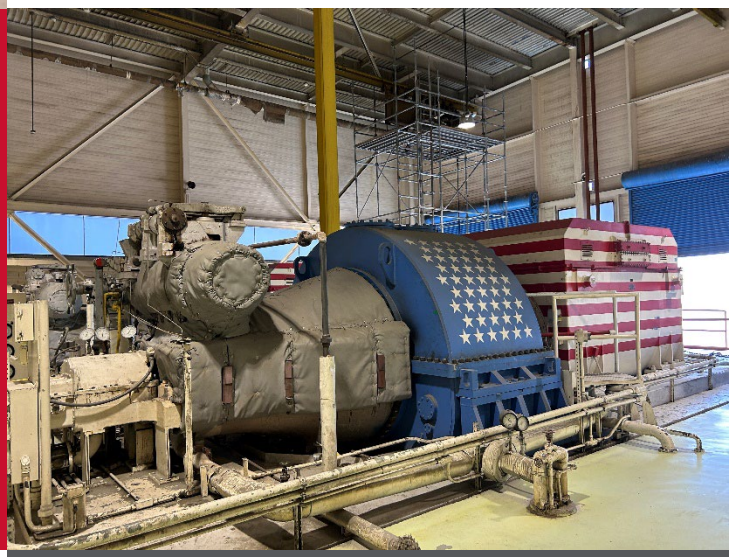

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Definition of Abbreviations & Acronyms

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)
kWh	Kilowatt hours (1,000 watt-hours)
lbs	Pounds
LOA	Letter of Agreement
Mar	March
Max	Maximum
May	May
Min	Minimum
MSW	Municipal Solid Waste
MWh	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
First Quarter Operations Report – Fiscal Year 2024

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 2023 Fiscal Year. This report is prepared for the first quarter of the 2024 Fiscal Year and summarizes Facility operations between July 1, 2023 and September 30, 2023 as Q1FY24.

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 Q1FY24. The operation of the Facility, maintenance, safety, and overall cleanliness continue to be above average. The Facility experienced no reportable environmental excursions during the quarter.

During Q1FY24, the boilers experienced two (2) instances of scheduled downtime totaling 218.1 hours, two (2) instances of unscheduled downtime totaling 52.2 hours and two (2) instances of standby totaling 7.2 hours. The turbine generators experienced three (3) instances of unscheduled downtime totaling 46.3 hours during the quarter. A detailed listing of downtime is provided in Section 5.1 of this report.

Average waste processed during the quarter was 981.1 tons per day, or 100.6% of nominal facility capacity which compares very favorably to industry averages.

Waste deliveries averaged 988.6 tons per day, which is higher (0.8%) 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.

Compared to the corresponding quarter in FY23, during Q1FY24 MSW processed was slightly lower (1.0%), steam production decreased (2.1%), and electricity generated (gross) decreased (2.7%). The decrease in steam generation occurred despite the increase in waste heating value (0.9%) and less boiler downtime (66.8 fewer hours). Despite less turbine generator downtime in Q1FY24, the decrease in electricity generated (gross) in Q1FY24 is attributable to the lower (2.1%) steam production and a slight increase in turbine steam rate (less efficient by 0.6%).

3.0 Facility Inspection and Records Review

In November 2023, 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	Pavement spider-cracking at Tipping Floor Entrance	November 2016	C	Resurface section of pavement at Tipping Floor Entrance	**Status Unchanged**	Open
2	SDA Penthouse No. 3 Door deteriorated at base	November 2017	C	Patch and Paint Door – Replace if necessary	**Status Unchanged**	Open
3	Deterioration behind lime slurry piping in SDA Penthouse No. 2	August 2019	C	Conduct painting preservation measures	**Status Unchanged**	Open
4	Siding deteriorated beneath Baghouse No. 3 Hoppers	August 2019	C	Replace siding	**Status Unchanged**	Open
5	Siding on north side of Baghouse No. 2 Deteriorated	February 2020	C	Replace siding and conduct painting preservation measures	**Status Unchanged**	Open
6	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
7	Insulation and lagging damaged/deteriorated around Boiler No. 3 Steam Drum	February 2021	C	Replace insulation and lagging	**Status Unchanged**	Open
8	Baghouse No. 3 hopper heaters set to manual; heater off but signaling low temperature	February 2021	B	Repair hopper heaters	**Status Unchanged**	Open
9	Feed Chute Cooling Jacket Water Level Boxes empty on Boilers No. 1 and No. 2	May 2021	B	Repair feed chute cooling jacket water level boxes	**Status Unchanged**	Open
10	Uneven water flow from Cooling Tower nozzle/distribution on southeast side of tower	August 2021	C	Repair nozzle	**Status Unchanged**	Open
11	When the upper level furnace camera on Boiler No. 3 was removed. The port that the camera was installed remains open.	November 2021	C	Fabricate temporary cover for open ports when cameras are out.	**Status Unchanged**	Open
12	Overhead lights (typical of 5 or more), on Tipping Floor, are out.	February 2022	C	Replace light bulb.	**Status Unchanged**	Open
13	A temporary pump is set up on the ground floor of the Turbine Hall to transport wastewater from the trench drains to the Cooling Tower basin.	November 2022	B	Consider a permanent pump installation in lieu of temporary.	**Status Unchanged**	Open
14	There is a small section of building siding missing on the east side (near the Tipping Floor entrance).	May 2023	C	Repair/Replace siding.	**Status Unchanged**	Open
15	Grounding on Southwest corner of Cooling Tower not secured.	May 2023	B	Repair grounding wire.	**Status Unchanged**	Open
16	Caution tape wrapped around a section of access stairs to the Cooling Tower.	August 2023	C	Address the issue on the stairs.	**Status Unchanged**	Open

4.0 Facility Performance

Monthly operating data provided by CAAI indicates that 90,265 tons of MSW were processed during Q1FY24, and a total of 90,948 tons of MSW including 1,923 tons of Special Handling Waste (2.1% by weight) were received. Total ash production during the quarter was 17,741 tons, which represents 19.7% of the waste processed by weight. The average uncorrected steam production rate for Q1FY24 was 2.99 $tons_{steam}/ton_{waste}$, which is lower (1.2%) than the corresponding quarter in FY23 indicative of slight decreased boiler performance (waste HHV is consistent).

Chart 1: Tons of Waste Processed

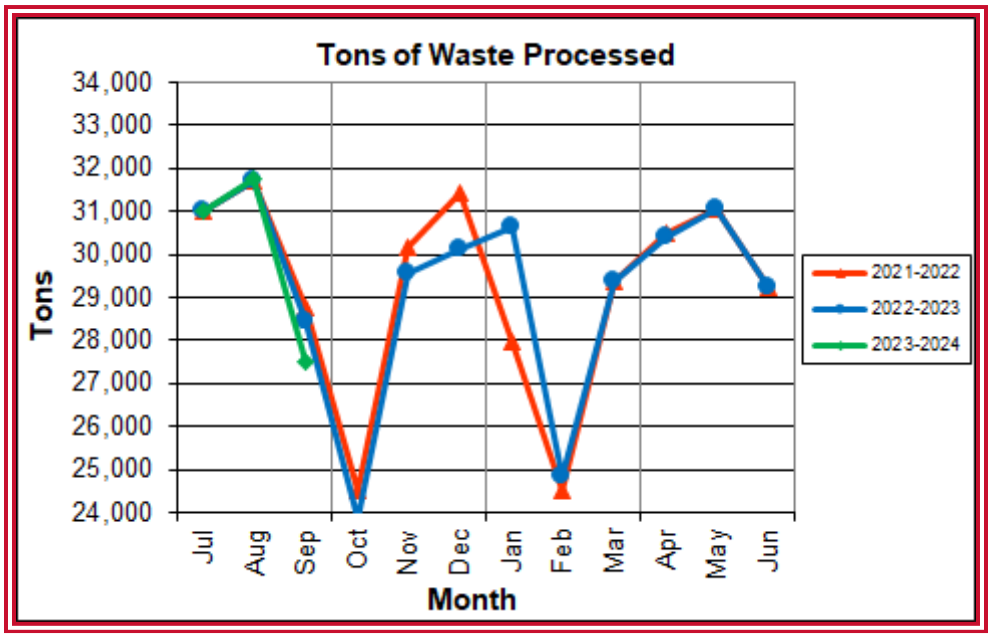


Chart 1 illustrates that Q1FY24 waste processed was lower (1.0%) than the corresponding quarter, Q1FY23. CAAI reported that 551 tipping floor/MSW internal inspections were performed during the quarter and there were four (4) notices of violation (NOVs) issued to haulers. In August, two (2) NOVs were issued for drivers breaking the entrance gate, and one (1) for excessive metal. In September, one (1) NOV was issued for excessive metal in the load.

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

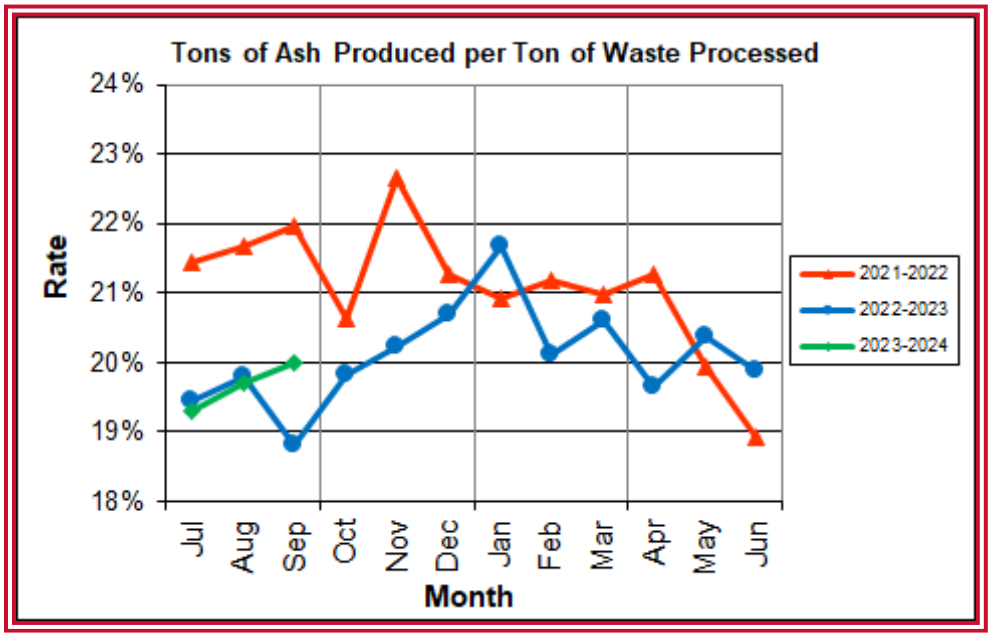


Chart 2 illustrates that the average ash production rate in Q1FY24 was slightly higher (0.3 percentage points) at 19.7% of processed waste, compared to the corresponding quarter in FY23 when the rate was 19.4%.

Chart 3: Ferrous Recovery Rate

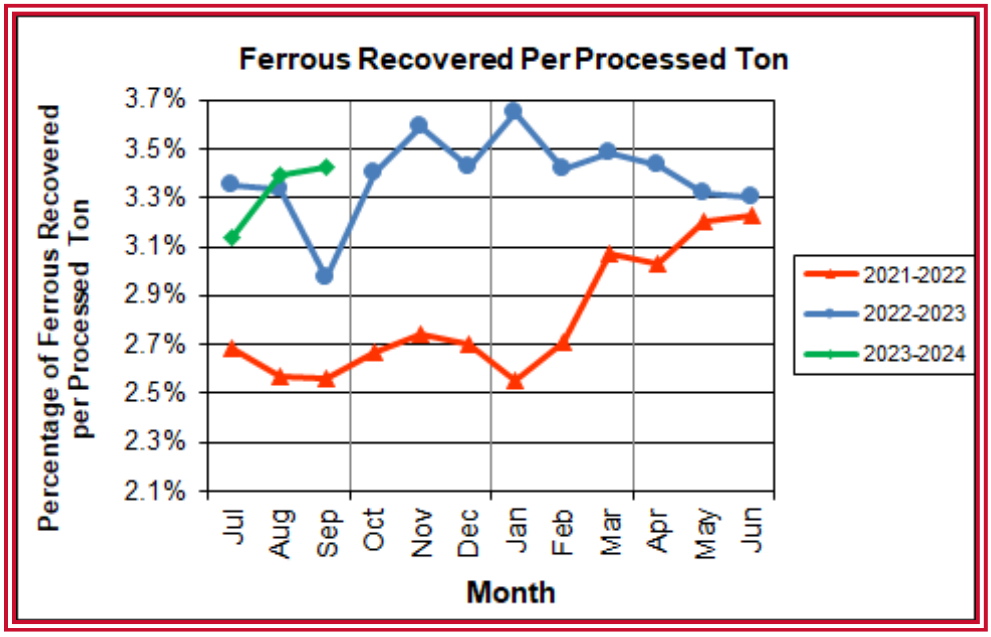
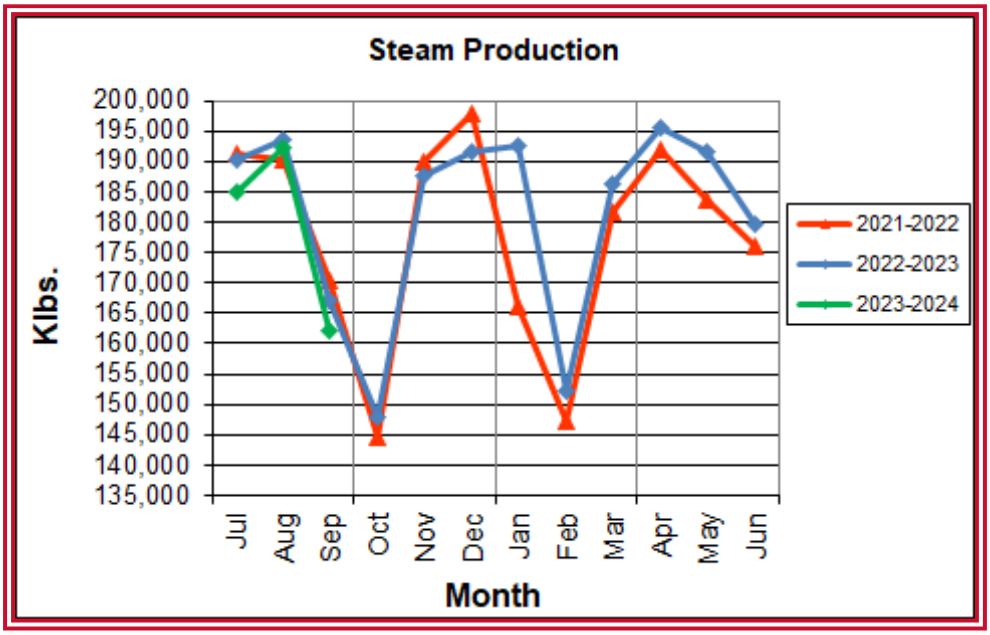


Chart 3 depicts the monthly ferrous metal recovery rate as a percentage of processed MSW tonnage. In Q1FY24, 2,992 tons of ferrous metals were recovered, which is 1.7% higher than the corresponding quarter in FY23. Chart 3

illustrates that the ferrous recovery rate in Q1FY24 was 0.1 percentage points higher, at 3.3% of processed waste, compared to the corresponding quarter in FY23 when the rate was 3.2%.

Chart 4: Steam Production



In Chart 4, the total steam production for Q1FY24 was 539,326 klbs, 2.1% lower than the corresponding quarter in FY23. The decrease in steam generation occurred despite the increase in waste heating value (0.9%) and less boiler downtime (66.8 fewer hours).

Chart 5: 12-Month Rolling Steam Production

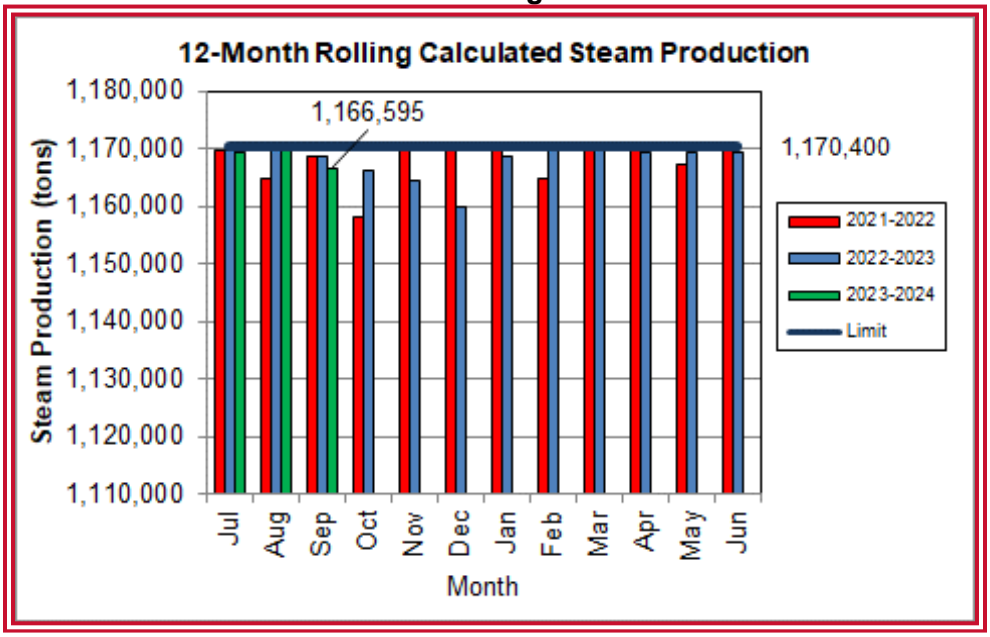
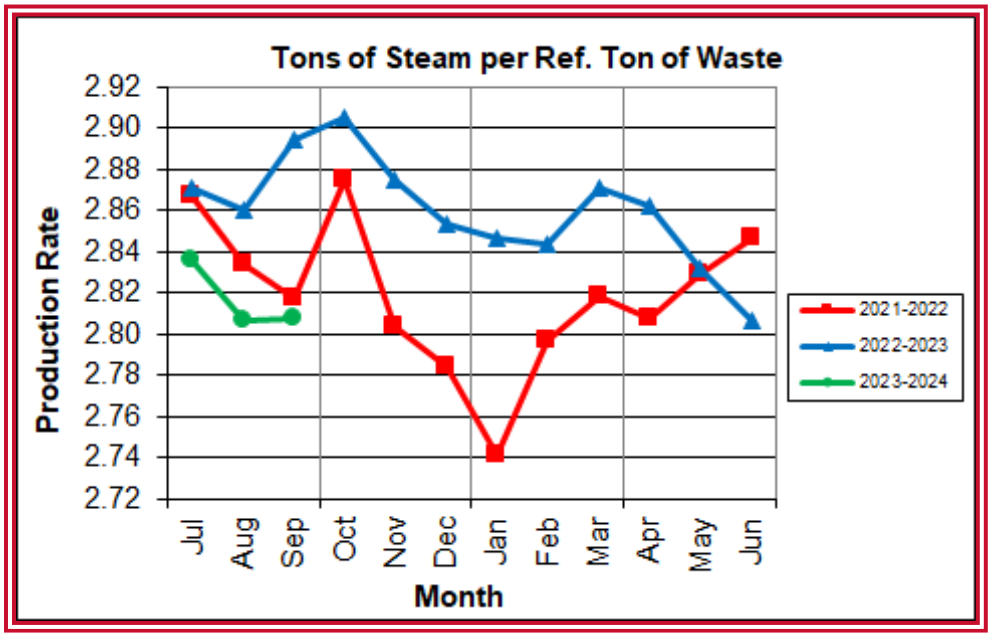


Chart 5 depicts the 12-month rolling steam production for Q1FY24, and for the previous two (2) fiscal years. According to the Title V permit, the annual steam production for the Facility shall not exceed 1,170,400 tons based on an average value of 3.34 lbs. of steam per lb. of MSW processed, calculated monthly as the sum of each consecutive 12-month period. The Facility complied with the 12-month rolling steam production total every month in Q1FY24. The 12-month rolling total for steam production ending in September 2023 was 1,166,595 tons which is 99.7% of the limit. Chart 5 shows that Facility throughput, and in turn, steam and electricity production are being throttled to stay 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 Q1FY24, this metric tracked lower (1.2%) at 2.99 $tons_{steam}/ton_{ref}$ compared to the corresponding quarter in FY23, which is indicative of decreased boiler performance.

Chart 7: Calculated Waste Heating Value

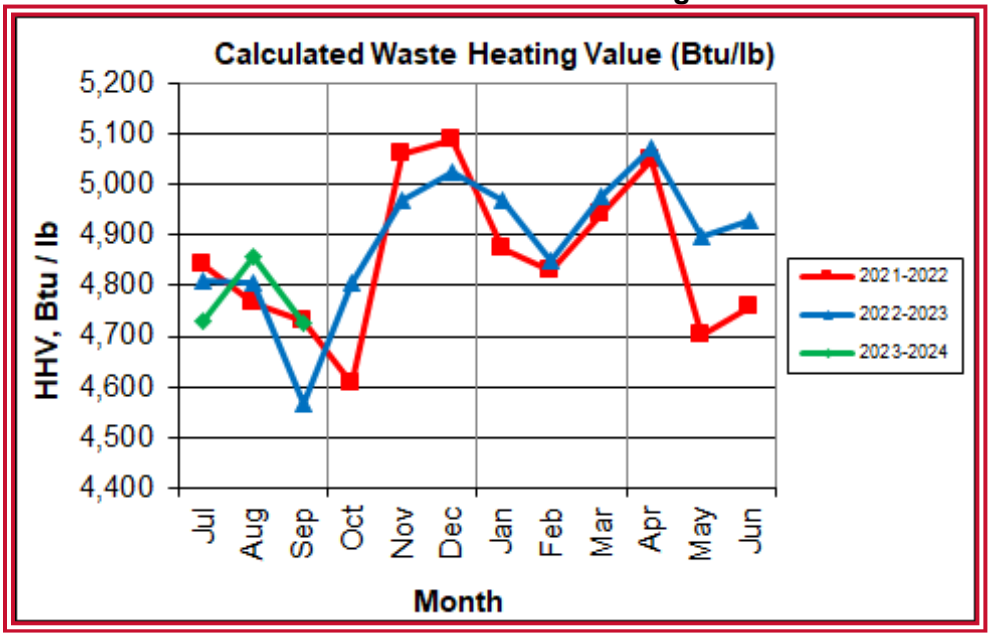


Chart 7 illustrates that Q1FY24 calculated average waste heating value was higher (0.9%) at 4,771 Btu/lb than the corresponding quarter in FY23, which averaged 4,727 Btu/lb. Note that 14.2[1] inches of precipitation were recorded at Ronald Reagan National Airport, which is 2.1 inches more than the corresponding quarter in FY23 which can affect the moisture content in the waste and waste heating value.

[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 (MWh)
Q1FY22	**Quarterly Totals**	**91,485**	**0**	**19,845**	**1,945**	**2,385**	**552,108**	**37,600**
	July-21	30,993	0	6,649	688	833	191,289	13,000
	August-21	31,713	0	6,876	778	814	190,385	12,998
	September-21	28,779	0	6,320	479	738	170,434	11,602
Q1FY23	**Quarterly Totals**	**91,131**	**0**	**17,655**	**2,135**	**2,941**	**550,954**	**37,251**
	July-22	31,004	0	6,032	656	1,038	190,292	12,927
	August-22	31,701	0	6,274	797	1,058	193,697	13,305
	September-22	28,426	0	5,349	682	845	166,965	11,019
Q1FY24	**Quarterly Totals**	**90,265**	**0**	**17,741**	**1,923**	**2,992**	**539,326**	**35,778**
	July-23	31,008	0	5,984	692	972	184,870	11,908
	August-23	31,745	0	6,257	702	1,078	192,261	13,048
	September-23	27,512	0	5,500	529	942	162,195	10,822
FY24 YTD Totals		**90,265**	**0**	**17,741**	**1,923**	**2,992**	**539,326**	**35,778**
FY23 Totals		**91,131**	**0**	**17,655**	**2,135**	**2,941**	**550,954**	**37,251**
FY22 Totals		**91,485**	**0**	**19,845**	**1,945**	**2,385**	**552,108**	**37,600**

Table 2 presents the production data provided to HDR by CAAI for Q1FY24 on both a monthly and quarterly basis. For purposes of comparison, Q1FY22 and Q1FY23 are shown, as well as FY22, FY23 and FY24 year to date (YTD) totals. In comparing quarterly totals, the data shows:

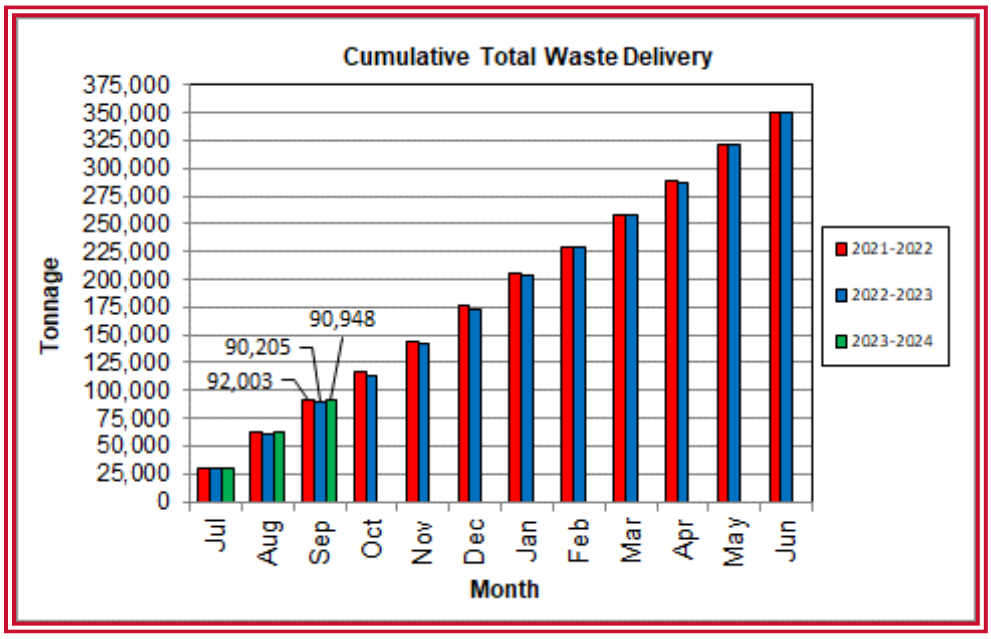
- Less waste was processed in Q1FY24 than Q1FY22 and Q1FY23
- Less steam was generated in Q1FY24 than Q1FY22 and Q1FY23
- Less electricity (net) was generated in Q1FY24 than Q1FY22 and Q1FY23
- Less supplemental waste was received in Q1FY24 than Q1FY21 and Q1FY23

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 an annual rolling average, evaluated monthly.

Table 3: Waste Delivery Classification

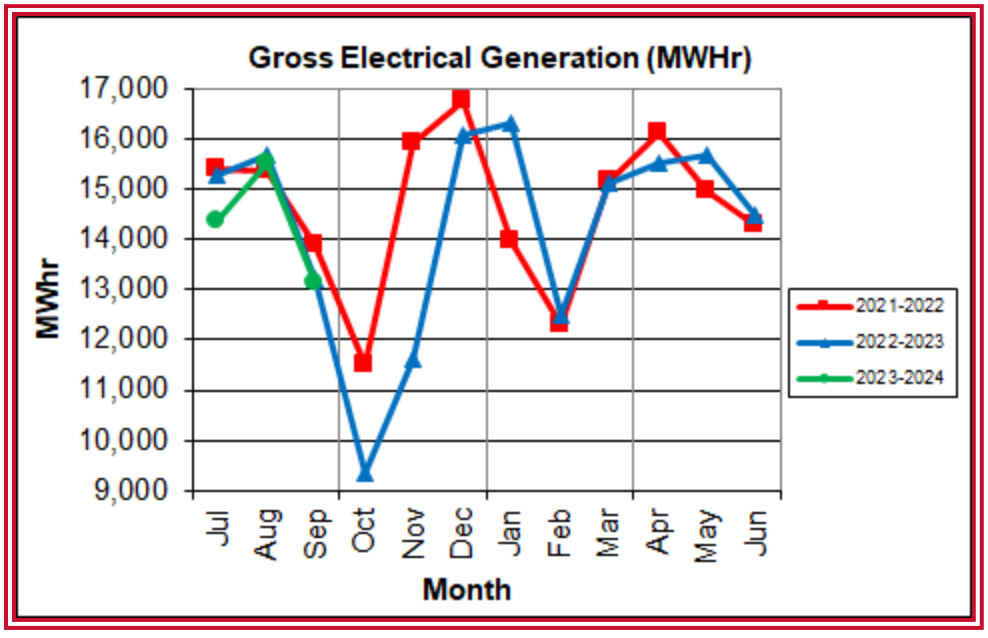
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY20	City Waste	2,070	1,771	1,726	1,894	1,742	1,844	1,870	1,489	1,925	1,931	1,849	2,051	22,160	6.30%
	County Waste	3,069	2,600	2,544	2,664	2,507	2,575	2,694	2,195	2,509	2,518	2,663	2,861	31,399	8.93%
	Brokered Waste	-	-	-	-	-	-	120	114	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	2,102	2,042	2,197	22,811	6.55%
	County Waste	2,377	2,713	2,711	2,589	2,550	2,646	2,365	2,054	2,441	2,472	2,542	2,682	30,143	8.66%
	Municipal Solid Waste	22,517	26,941	24,523	22,102	19,209	25,831	22,419	20,046	25,980	25,621	25,260	24,603	285,053	81.88%
	Supplemental Waste	691	1,139	927	1,045	930	859	895	1,070	747	653	519	641	10,117	2.91%
	MSW Totals	**27,169**	**32,698**	**30,282**	**27,642**	**24,659**	**31,336**	**27,234**	**24,562**	**31,207**	**30,848**	**30,363**	**30,123**	**348,124**	**100.00%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY22	City Waste	1,853	2,080	2,042	1,855	2,002	1,914	1,628	1,570	1,900	1,895	2,107	2,203	23,049	6.58%
	County Waste	2,516	2,403	2,457	2,184	2,463	2,489	2,232	2,192	2,519	2,394	2,761	2,717	29,337	8.38%
	Municipal Solid Waste	24,682	26,646	25,378	19,376	23,834	27,424	24,212	19,114	23,465	25,745	27,057	23,637	290,569	83.01%
	Supplemental Waste	688	778	479	514	534	499	448	349	626	685	756	735	7,090	2.03%
	MSW Totals	**29,740**	**31,907**	**30,356**	**23,929**	**28,832**	**32,326**	**28,520**	**23,225**	**28,510**	**30,719**	**32,681**	**29,291**	**350,035**	**100.00%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY23	City Waste	1,841	2,020	1,874	1,827	2,046	1,872	1,880	1,566	1,829	1,887	2,035	1,913	22,590	6.43%
	County Waste	2,339	2,471	2,454	2,188	2,448	2,333	2,453	2,092	2,444	2,104	2,656	2,571	28,552	8.13%
	Municipal Solid Waste	24,434	26,977	23,660	17,994	24,827	25,487	26,656	21,209	23,673	24,530	29,037	24,013	292,500	83.32%
	Supplemental Waste	656	797	682	444	582	537	559	592	582	567	682	723	7,403	2.11%
	MSW Totals	**29,270**	**32,265**	**28,670**	**22,454**	**29,905**	**30,229**	**31,548**	**25,460**	**28,527**	**29,087**	**34,410**	**29,220**	**351,045**	**100.00%**
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals	% of Total
FY24	City Waste	1,780	2,149	1,746										5,675	6.24%
	County Waste	2,521	2,755	2,461										7,737	8.51%
	Municipal Solid Waste	25,031	26,225	23,276										74,533	81.95%
	Supplemental Waste	692	702	529										1,923	2.11%
	MSW Totals	**30,024**	**32,911**	**28,013**										**90,948**	**100.00%**

Chart 8: Cumulative Total Waste Delivery



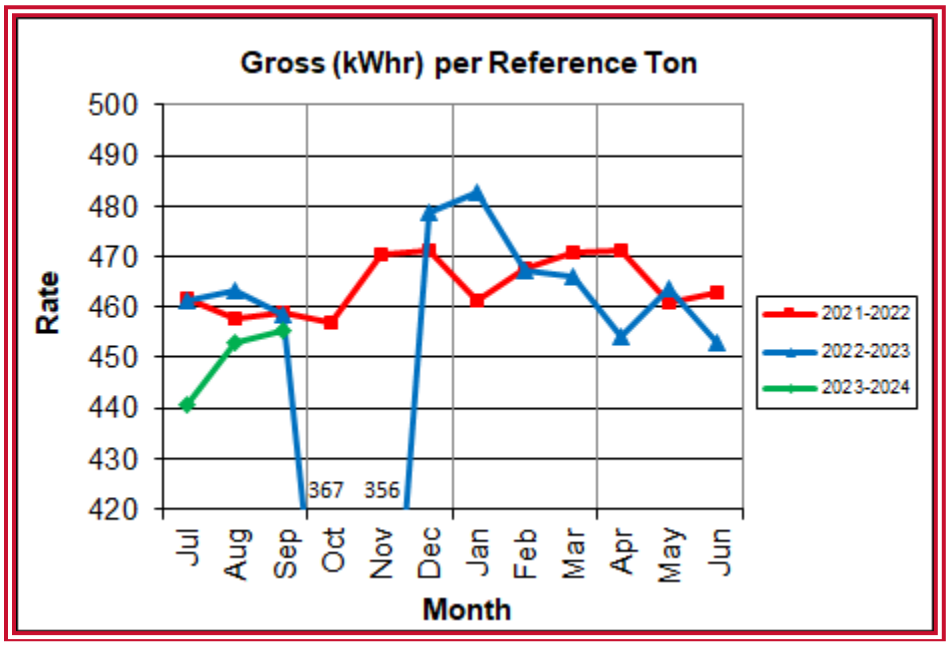
As depicted in Table 3 and Chart 8, cumulative waste delivery through Q1FY24 was 0.8% higher compared to the same period in Q1FY23.

Chart 9: Gross Electrical Generation



During Q1FY24, the Facility generated 43,028 MWh (gross) of electricity compared to Q1FY23 generation of 44,199 MWh (gross), a 2.7% decrease. This decrease is attributable to the decrease in the steam production, offset by less turbine generator downtime (101.7 fewer hours).

Chart 10: Gross Conversion Rate



As shown in Chart 10, the average gross electrical generation per reference ton of refuse processed during Q1FY24 was 450 kWh per reference ton, which is 2.5% less than the corresponding quarter in FY23.

Chart 11: Net Conversion Rate

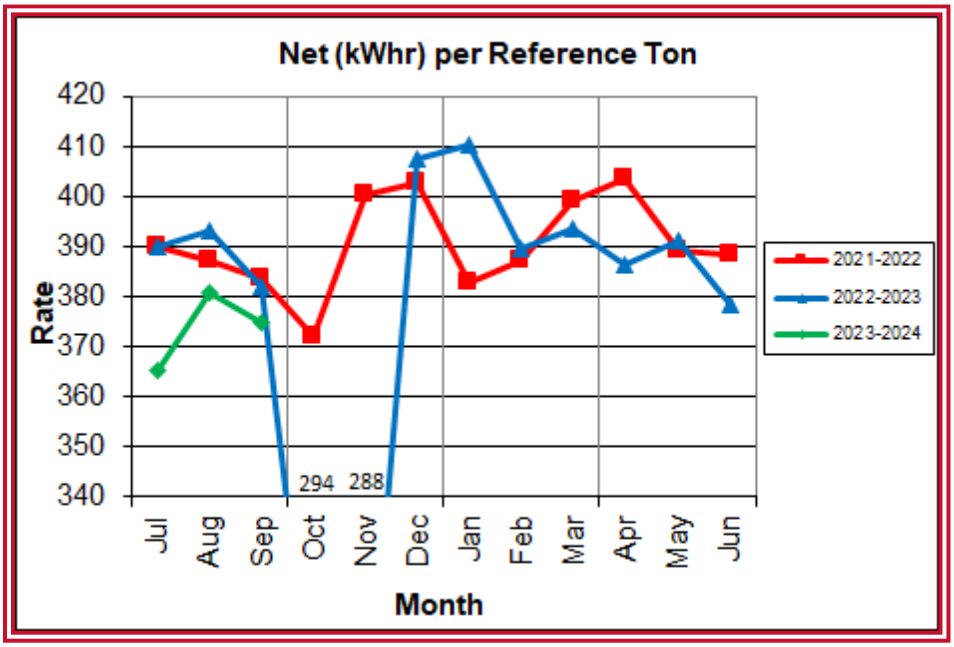


Chart 11 depicts the normalized net power generation (gross minus in-house usage). In Q1FY24, the average net electrical generation per reference ton was 374 kWh per ton, which is 3.8% lower than the corresponding quarter in FY23.

Chart 12: Net Conversion Rate

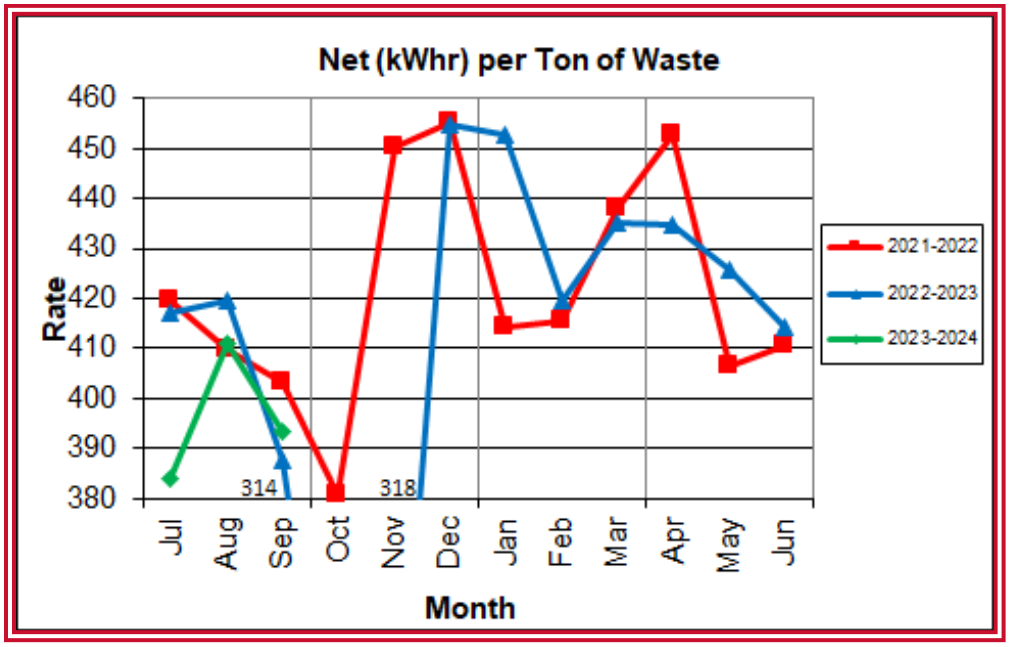


Chart 12 depicts the net power generation per processed ton. The net electrical generation per processed ton in Q1FY24 was 396 kWh per ton, which is 2.9% less than the corresponding quarter in FY23.

Chart 13: Gross Turbine Generator Conversion Rate

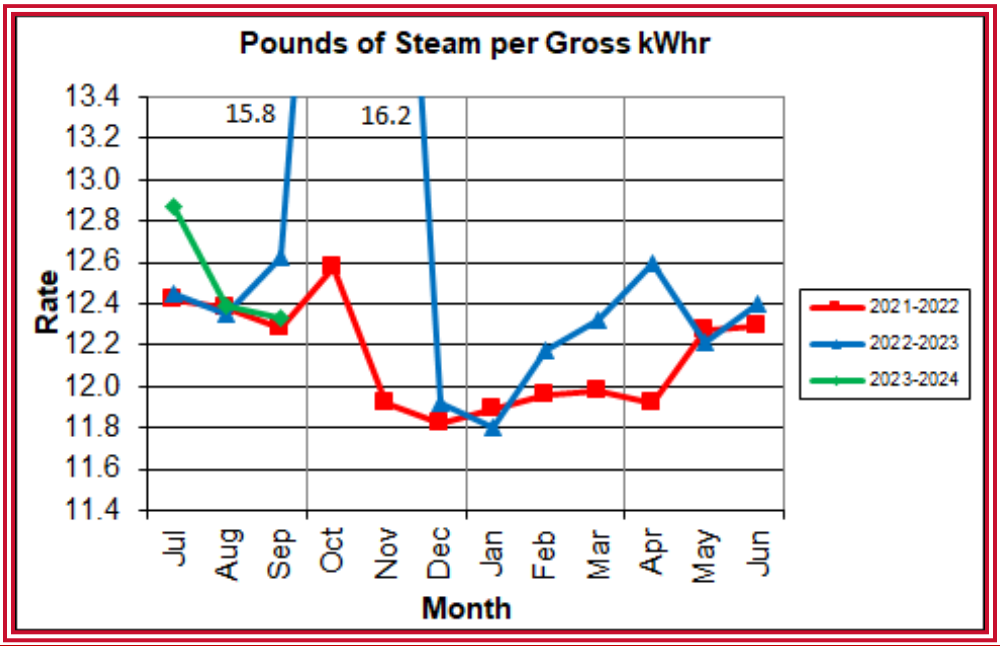


Chart 13 illustrates the quantities of steam required to generate one (1) kWh of electricity. This measure is a turbine generator performance indicator, where lower steam rates indicate superior performance. For simplification, this calculated rate is based on the average for the two turbine generators. In Q1FY24 the average pounds of steam consumed per gross kWh generated was 12.5, which is 0.6% higher (less efficient) than the corresponding quarter Q1FY23. The average main steam temperature during the quarter was 688.5 °F, which is 10.1°F higher than the average main steam temperature of the corresponding quarter last fiscal year and 11.5 °F lower than design temperature of 700 °F. Lower main steam temperature decreases power generation, all other factors being equal.

4.1 Utility and Reagent Consumptions

Table 4: Facility Utility and Reagent Consumptions

Utility	Units	Q1FY24 Total	Q1FY23 Total	Q1FY24 "Per Processed Ton" Consumption	Q1FY23 "Per Processed Ton" Consumption
Purchased Power	MWh	-	5,395	0.00	0.06
Fuel Oil	Gal.	10,750	20,220	0.12	0.22
Boiler Make-up	Gal.	1,710,000	1,710,000	18.94	18.76
Cooling Tower Make-up	Gal.	46,831,246	45,868,499	518.82	503.32
Pebble Lime	Lbs.	1,454,000	1,690,000	16.11	18.54
Ammonia	Lbs.	185,000	131,000	2.05	1.44
Carbon	Lbs.	72,000	78,000	0.80	0.86

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 is less than the 0.34% of total heat input in Q1FY23. Fuel oil is used to stabilize combustion of wet fuel, as well as during start-up and shutdown of the boilers for maintenance. Boiler makeup water usage during the quarter represents 2.5% of steam flow, which is slightly lower than the boiler makeup in Q1FY23 which was 2.6% of steam flow. Higher boiler makeup quantities are indicative of increased steam leakage.

In comparing Q1FY24 to Q1FY23 on a per processed ton consumption basis:

- there was no purchased power during the quarter; this was a change in the Facility's metering calculation, made in February 2023.
- the total fuel oil consumption rate was 46.3% lower
- the boiler make-up water consumption rate was 1.0% higher
- the cooling tower make-up water consumption rate was 3.1% higher
- the total pebble lime consumption rate was 13.1% lower
- the ammonia consumption rate was 42.6% higher
- the carbon consumption rate was 6.8% lower

The decrease in the fuel oil consumption is partially attributable to the fewer instances of boiler downtime in FY24. In Q1FY23, there were 10 instances where the boilers went offline versus Q1FY24 there were only six instances.

4.2 Safety & Environmental Training

The Facility experienced no OSHA recordable accidents and one (1) First Aid Accident during Q1FY24. CAAI has operated 298 days without an OSHA recordable accident as of September 30, 2023. The First Aid accident in August occurred when an employee got debris in their eye. Safety training and Environmental activities that were conducted with themes as follows:

July 2023

- Safety:
  - Confined Space Entry
- Environmental:
  - Opacity and Plume
  - Ash Pit

August 2023

- Safety:
  - Blood Borne Pathogens
- Environmental:
  - Minimizing Nuisance Conditions
  - Waste Inspections

September 2023

- Safety:
  - Lead and Heavy Metals
- Environmental:
  - Regulatory Inspections
  - Air Pollution Control

5.0 Facility Maintenance

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

Beginning July 9, Boiler No. 1 experienced 74.0 hours of scheduled downtime for a cleaning outage. Beginning September 9, Boiler No. 3 experienced 128.0 hours of scheduled downtime for a scheduled minor outage. In addition to the scheduled outages, CAAI reports that 716 preventative maintenance actions were completed during the quarter.

5.1 Availability

Facility availabilities for Q1FY24 are shown in Table 5. According to CAAI reports, the average unit availabilities for Boiler Nos. 1, 2, and 3 for Q1FY24 were 95.8%, 98.5%, and 94.1%, respectively. The three-boiler average availability during the quarter was 96.1%, which is excellent. Note that 7.2 hours of standby time was experienced by the boilers during the quarter, which does not factor into overall availability.

According to CAAI reports, the average unit availabilities for Turbine Generator 1 and 2 for Q1FY24 were both 100%. Note that 40.6 standby time was experienced by turbine generator No. 2 during the quarter.

Table 5: Quarterly Facility Unit Availabilities

Availability	Q1FY24 Average
Boiler No. 1	95.8%
Boiler No. 2	98.5%
Boiler No. 3	94.1%
Avg.	*96.1%*
Turbine No. 1	100.0%
Turbine No. 2	100.0%
Avg.	*100.0%*

Table 6: Boiler Downtime – Q1FY24

Boiler Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
2	7/4/23	7/4/23	2.2	Standby	Plant Trip
3	7/4/23	7/4/23	5.0	Standby	Plant Trip
1	7/9/23	7/12/23	74.0	Scheduled	Scheduled cleaning
1	9/7/23	9/7/23	19.2	Unscheduled	Economizer tube leak repair
3	9/9/23	9/14/23	128.0	Scheduled	Scheduled minor outage
2	9/21/23	9/23/23	33.0	Unscheduled	Stoker system pluggage
Total Unscheduled Downtime				**52.2 Hours**	
Total Scheduled Downtime				**218.1 Hours**	
Total Standby Downtime				**7.2 Hours**	
Total Downtime				**277.5 Hours**	

Table 7: Turbine Generator Downtime – Q1FY24

Turbine Generator Number	Outage Begin Date	Outage End Date	Hours Unavailable	Downtime Classification	Reason Unavailable
1	7/4/23	7/4/23	3.2	Unscheduled	Plant Trip
2	7/4/23	7/4/23	2.5	Unscheduled	Plant Trip
2	7/10/23	7/11/23	40.6	Standby	Utility Ordered Outage
Total Unscheduled Downtime				**5.7 Hours**	
Total Scheduled Downtime				**0.0 Hours**	
Total Standby Downtime				**40.6 Hours**	
Total Downtime				**46.3 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 November 2023. 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 November 2023 walkdown are presented in Table 8.

Table 8: Facility Housekeeping Ratings – November 2023

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 Q1FY24 are summarized in Appendix A. The Facility experienced no permit deviations during Q1FY24. As of September 30, 2023, the Facility operated 396 days without an environmental excursion.

6.1 Nitrogen Oxide Emissions

During Q1FY24, the monthly emission concentrations of nitrogen oxides (NO_x) averaged 87.3 ppm, 86.7 ppm, and 86.7 ppm for Boiler Nos. 1, 2, and 3, respectively. All these stack NO_X concentrations are significantly below the permit

limit (110 ppm, 24-hr average, @ 7% O_2). In comparing Q1FY24 to the corresponding quarter last year, ammonia usage increased by 42.6%.

6.2 Sulfur Dioxide Emissions

During Q1FY24 the monthly emission concentration of stack sulfur dioxide (SO_2) averaged 0.7 ppm, 1.0 ppm, and 1.7 ppm for Boiler Nos. 1, 2, and 3, respectively. All these stack SO_2 concentrations are significantly below the permit limit of 29 ppm @ 7% O_2.

6.3 Carbon Monoxide Emissions

During Q1FY24, the monthly average CO emission concentrations on Boiler Nos. 1, 2, and 3 were 29.3 ppm, 24.0 ppm, and 25.7 ppm, respectively, and all are well within permit limits (100 ppmdv, 4-hour average).

6.4 Opacity

During Q1FY24, the average opacity on Boiler Nos. 1, 2, and 3 were 1.4%, 0.6%, and 1.0%, respectively, which are all significantly below the 10% (6-minute) average permit limit. New Opacity Monitors have been installed on all three units.

6.5 Daily Emissions Data

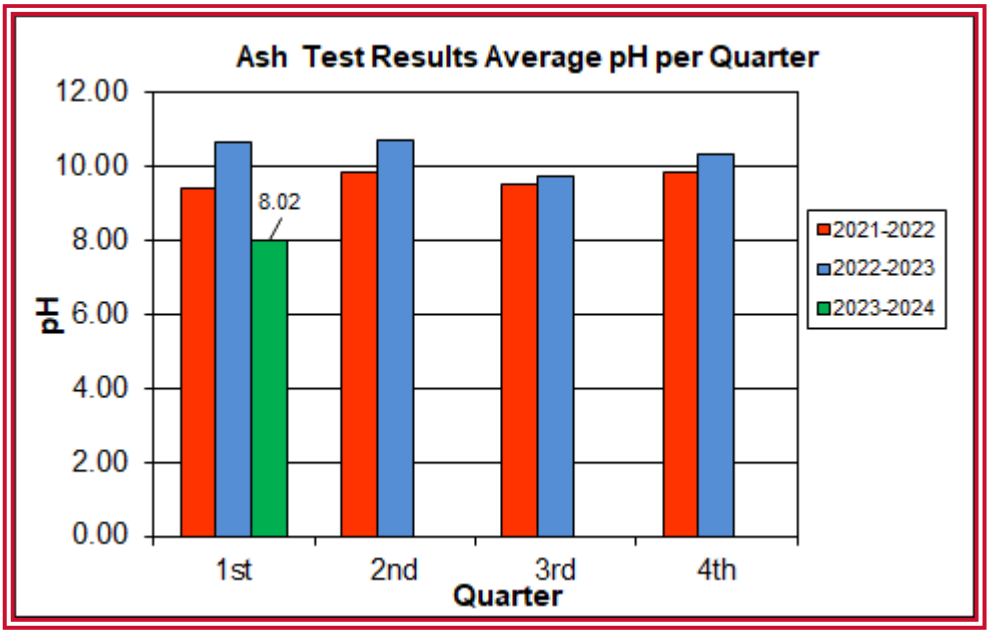
Appendix A, Tables 9, 10, and 11 tabulate the monthly average, maximum, and minimum emissions data for each unit during Q1FY24. Excursions appear in bold print. It should be noted that these tabulations of monthly averages, reported here for informational purposes, are based on tabulations of daily averages. These averages do not correlate with official reports to the regulatory agencies because of differences in averaging times and other technical differences required by agency report formats.

6.6 Ash System Compliance

The desired ash pH level ranges from 8.0 to 11.0. Toxicity Characteristic Leaching Procedure (TCLP) testing ash samples were collected from September 18, 2023, through October 4, 2023. Results from the TCLP testing will be included in the

forthcoming Q2FY24 Quarterly Report. CAAI continued to sample ash monthly in-house, and document pH readings and adjust lime feed rate as needed. The results for the in-house ash pH tests are depicted below in Chart 14 where each quarter is represented by the average of the respective monthly readings. In Q1FY24, the average ash pH for in-house tests was 8.0, which is in the target range of 8 to 11.

Chart 14: Quarterly Ash Test Results



APPENDIX A
FACILITY CEMS DATA

Table 9: Boiler No. 1 Monthly Summary for Reportable Emissions Data

Group#-Channel#		G8-C35	G8-C28	G8-C8	G8-C4	G8-C12	G8-C34	G8-C37	G8-C40	G8-C39
Long Descrip.		U-1 Steam	U-1 Econ	U-1 Stack	U-1 Stack	U-1 Stack	U-1 Opaci	U-1 FF In	U-1 Carbo	U-1 Lime
Short Descrip.		SteamFl	SO_2ec	SO_2sc	COsc	NO_xsc	Opacity	FF InTemp	CarbInj	LimeFlow
Units		K#/Hr	ppmc	ppm	ppmc	ppmc	%	deg F	#/hr	gpm
Range		0-100	0-2000	0-500	0-4000	0-1000	0-100	100-500	0-50	0-20
Jul – 23	AVG	85.8	42.0	1.0	30.0	88.0	1.4	298.0	11.4	3.6
	Max	89.3	63.0	2.0	45.0	97.0	1.9	300.0	12.3	3.8
	Min	81.1	18.0	0.0	21.0	85.0	1.2	298.0	11.2	3.2
Aug – 23	AVG	86.6	38.0	1.0	30.0	87.0	2.3	298.0	11.4	3.4
	Max	91.0	53.0	6.0	44.0	92.0	2.6	299.0	12.0	4.3
	Min	79.7	24.0	0.0	21.0	86.0	1.4	296.0	11.2	2.5
Sep - 23	AVG	82.5	26.0	0.0	28.0	87.0	0.4	298.0	11.3	3.4
	Max	89.4	38.0	3.0	66.0	89.0	1.0	299.0	11.7	3.8
	Min	75.9	13.0	0.0	15.0	85.0	0.0	298.0	11.2	2.8
Quarter Average		85.0	35.3	0.7	29.3	87.3	1.4	298.0	11.4	3.5
Quarter Max Value		91.0	63.0	6.0	66.0	97.0	2.6	300.0	12.3	4.3
Quarter Min Value		75.9	13.0	0.0	15.0	85.0	0.0	296.0	11.2	2.5
Limits:		99	NA	29	100	110	10	331	12(a)	

(a) Carbon flow limit is a minimum value
(b) Limit for NOx is based on an average daily limit

* 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 10: Boiler No. 2 Monthly Summary for Reportable Emissions Data

Group#-Channel#		G8-C35	G8-C28	G8-C8	G8-C4	G8-C12	G8-C34	G8-C37	G8-C40	G8-C39
Long Descrip.		U-2 Steam	U-2 Econ	U-2 Stack	U-2 Stack	U-2 Stack	U-2 Opaci	U-2 FF In	U-2 Carbo	U-2 Lime
Short Descrip.		SteamFl	SO_2ec	SO_2sc	COsc	NO_xsc	Opacity	FF InTemp	CarbInj	LimeFlow
Units		K#/Hr	ppmc	ppm	ppmc	ppmc	%	deg F	#/hr	gpm
Range		0-100	0-2000	0-500	0-4000	0-1000	0-100	100-500	0-50	0-20
Jul – 23	AVG	85.7	39.0	2.0	24.0	86.0	0.6	294.0	11.3	3.6
	Max	91.8	56.0	5.0	34.0	89.0	0.8	296.0	12.3	3.8
	Min	80.3	27.0	0.0	9.0	81.0	0.3	294.0	11.1	3.2
Aug – 23	AVG	85.7	31.0	1.0	26.0	87.0	0.7	294.0	11.4	3.4
	Max	90.1	55.0	3.0	37.0	89.0	1.0	294.0	11.8	4.3
	Min	79.6	18.0	0.0	15.0	86.0	0.4	294.0	11.2	2.5
Sep - 23	AVG	81.5	30.0	0.0	22.0	87.0	0.6	294.0	11.4	3.4
	Max	89.6	38.0	1.0	37.0	89.0	0.8	296.0	12.1	3.8
	Min	71.5	18.0	0.0	10.0	85.0	0.3	293.0	11.2	2.8
Quarter Average		84.3	33.3	1.0	24.0	86.7	0.6	294.0	11.4	3.5
Quarter Max Value		91.8	56.0	5.0	37.0	89.0	1.0	296.0	12.3	4.3
Quarter Min Value		71.5	18.0	0.0	9.0	81.0	0.3	293.0	11.1	2.5
Limits:		98	NA	29	100	110	10	330	12(a)	

(a) Carbon flow limit is a minimum value
(b) Limit for NOx is based on an average daily limit

* 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: Boiler No. 3 Monthly Summary for Reportable Emissions Data

Group#-Channel#		G8-C35	G8-C28	G8-C8	G8-C4	G8-C12	G8-C34	G8-C37	G8-C40	G8-C39
Long Descrip.		U-3 Steam	U-3 Econ	U-3 Stack	U-3 Stack	U-3 Stack	U-3 Opaci	U-3 FF In	U-3 Carbo	U-3 Lime
Short Descrip.		SteamFl	SO_2ec	SO_2sc	COsc	NO_xsc	Opacity	FF InTemp	CarbInj	LimeFlow
Units		K#/Hr	ppmc	ppm	ppmc	ppmc	%	deg F	#/hr	gpm
Range		0-100	0-2000	0-500	0-4000	0-1000	0-100	100-500	0-50	0-20
Jul – 23	AVG	85.4	31.0	1.0	26.0	87.0	1.0	299.0	11.2	3.6
	Max	91.6	44.0	11.0	32.0	88.0	1.2	301.0	11.7	3.9
	Min	78.1	17.0	0.0	15.0	85.0	0.8	298.0	11.2	2.4
Aug – 23	AVG	85.5	29.0	1.0	26.0	86.0	1.1	299.0	11.3	3.5
	Max	90.5	47.0	4.0	39.0	88.0	1.3	300.0	12.3	4.4
	Min	78.7	18.0	0.0	17.0	86.0	0.9	298.0	11.1	2.7
Sep - 23	AVG	80.8	34.0	3.0	25.0	87.0	1.0	299.0	11.3	3.6
	Max	88.6	69.0	7.0	35.0	88.0	1.3	299.0	12.1	3.9
	Min	75.0	20.0	0.0	17.0	85.0	0.8	298.0	11.2	2.9
Quarter Average		83.9	31.3	1.7	25.7	86.7	1.0	299.0	11.3	3.6
Quarter Max Value		91.6	69.0	11.0	39.0	88.0	1.3	301.0	12.3	4.4
Quarter Min Value		75.0	17.0	0.0	15.0	85.0	0.8	298.0	11.1	2.4
Limits:		98	NA	29	100	110	10	332	12(a)	

(a) Carbon flow limit is a minimum value
(b) Limit for NOx is based on an average daily limit

* 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 - November 2023

Figure 1: New Resident Drop-Off Area - Signage

Figure 2: Disposal Entrance Signage

Figure 3: New Resident Drop-Off Area - General

Figure 4: New Resident Drop-Off Area - Metals

Figure 5: Ash Trailer Canopy

Figure 6: Inside Carbon Silo

Figure 7: New lights across tipping floor

Figure 8: Refuse Pit

Figure 9: Refuse Pit Crane Festoon

Figure 10: Lime slurry pumps

Figure 11: Broken grounding conduit on cooling tower

Figure 12: Cooling tower stairs replaced

Figure 13: Temporary drain pump in Turbine Hall

Figure 14: Labeling on OFA fan

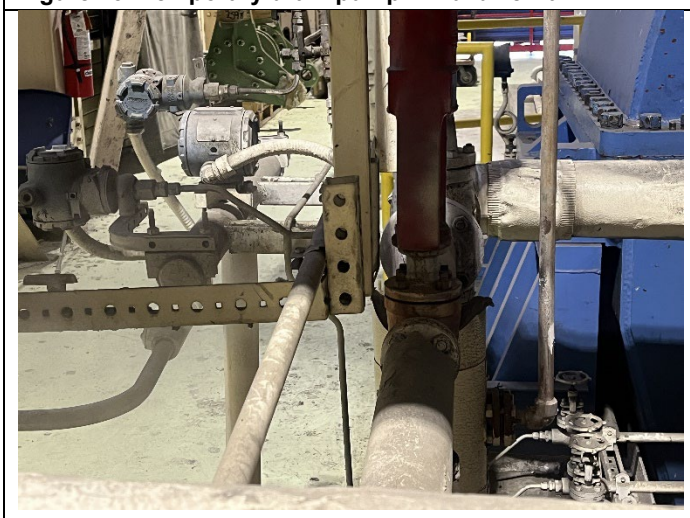


Figure 15: Leak on TG 1 gland steam valve

Figure 16: Broken covers on furnace ports

Figure 17: Hole in stairs near Boiler No. 1

Figure 18: Ferrous drum magnet

Figure 19: Insulation and lagging repairs needed throughout

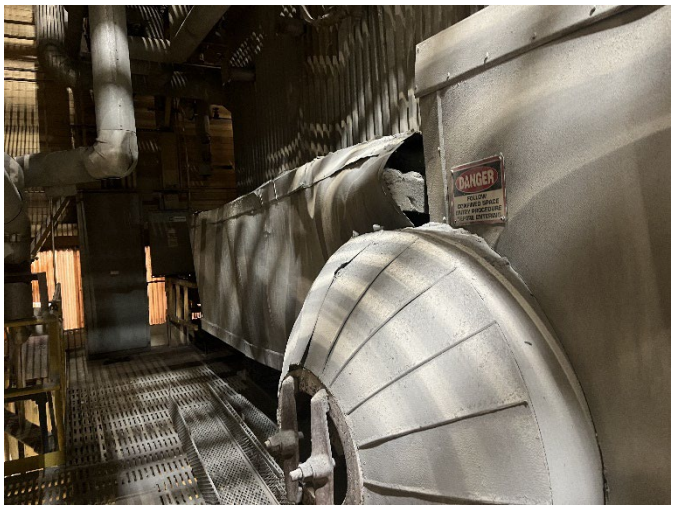


Figure 20: Insulation exposed by steam drum

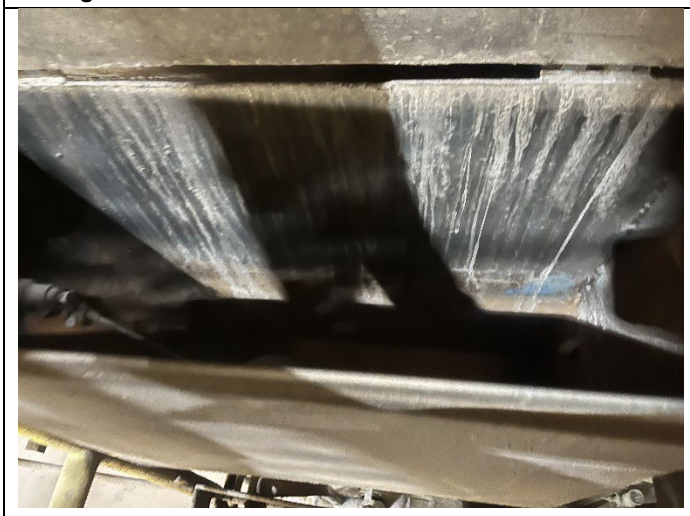


Figure 21: Empty feedchute water level box

Figure 22: Flex-hosing on feedchute cooling water jacket

Figure 23: Damaged insulation.

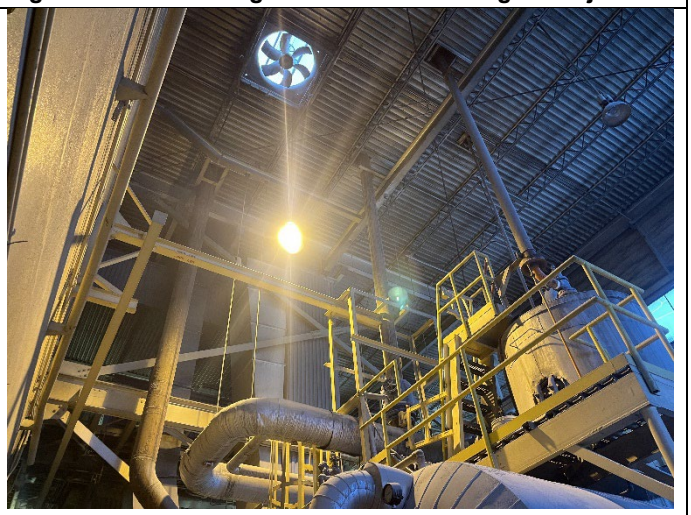


Figure 24: Boiler building exhaust fan above deaerator

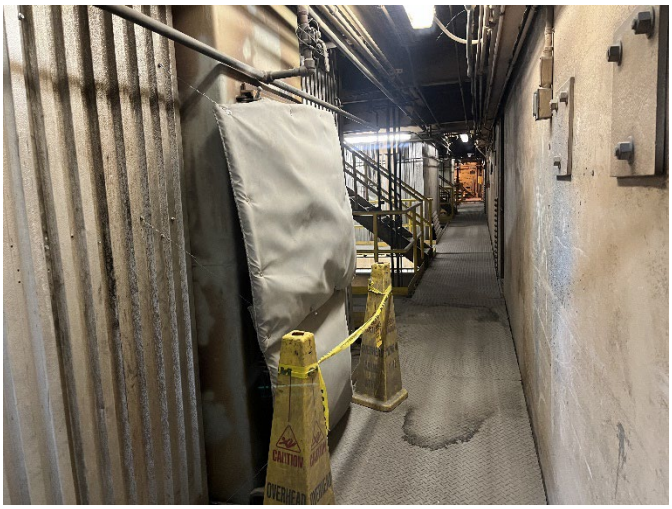


Figure 25: New entrance installed on Boiler No. 1

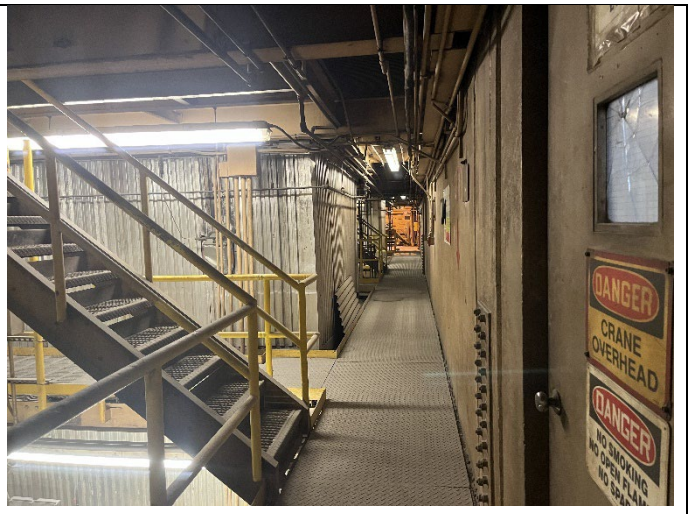


Figure 26: Boiler No. 2 and 3 do not have new entrance door

Figure 27: Scrubber Lime Slurry Atomizer

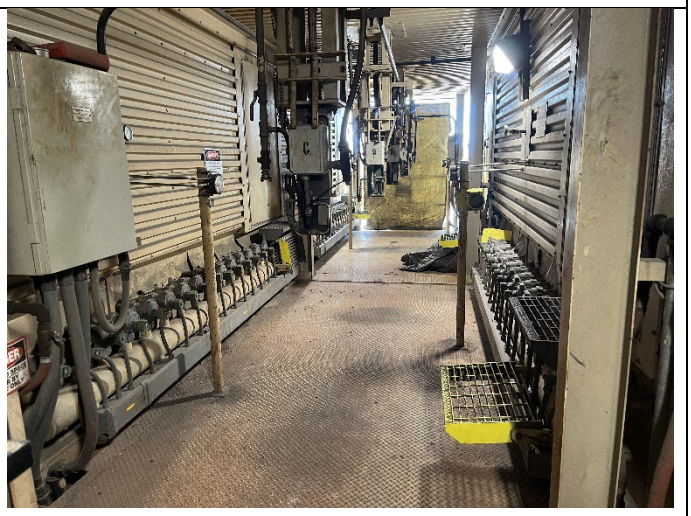


Figure 28: Baghouse Pulse Air Cleaning System

Figure 29: Pebble Lime Slaker

Figure 30: Ash hopper double dump valves not operational

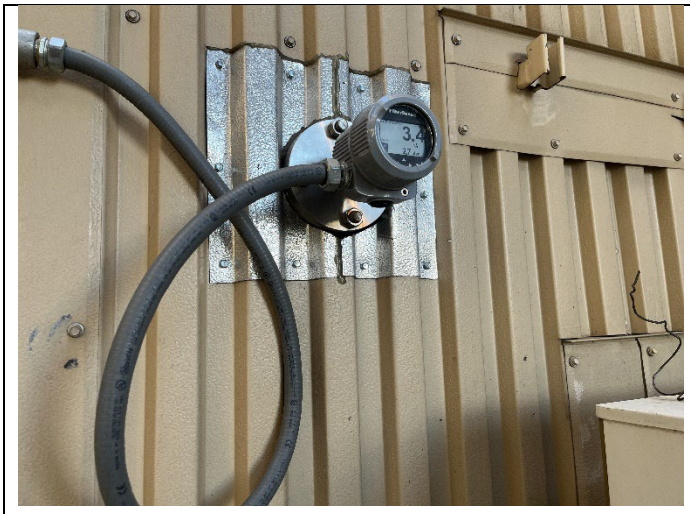


Figure 31: New Particular Matter (PM) Monitor

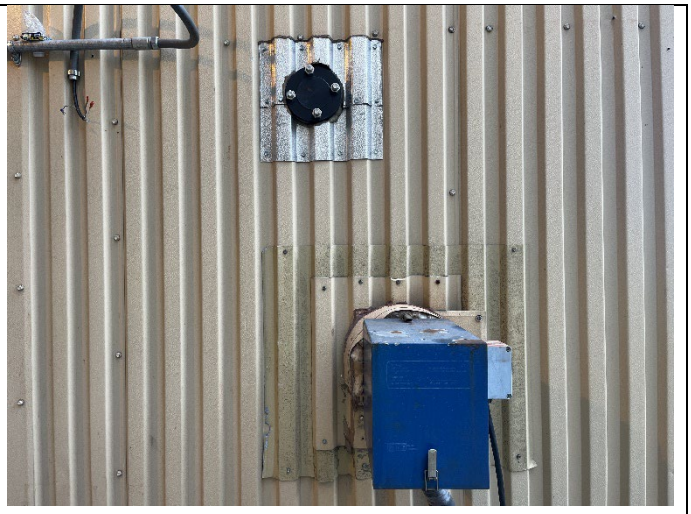


Figure 32: Future location of PM Monitor

Figure 33: Baghouse Hopper Heater Controls

Figure 34: Baghouse Hopper Heater Controls