



Durham York Energy Centre

ECA 7306-8FDKNX

2021 Annual Report



Table of Contents

1.	Introduction	5
1.1.	Statement of Compliance.....	13
2.	Municipal Solid Waste.....	13
2.1.	Waste Quality.....	13
2.2.	Waste Source	14
	Regional Municipality of Durham.....	14
	Regional Municipality of York.....	14
2.3.	Waste Quantity	14
2.4.	Rejected Waste.....	16
2.4.1.	Unacceptable Waste.....	16
2.4.2.	Bulky Unprocessable Items	17
3.	Residual Waste	18
3.1.	Ash.....	18
3.1.1.	Bottom Ash	18
3.1.2.	Fly Ash.....	20
3.2.	Metals	21
3.3.	Residual Waste – Material Balance	21
4.	Utilities	23
4.1.	Water	23
4.2.	Electricity	24
5.	Air Emissions	24
5.1.	Continuous Emission Monitoring System (CEMS).....	24
5.2.	Analyser Reliability.....	26
5.3.	Performance Requirements (Schedule C) - Excursions.....	27

5.4.	Performance Requirements (Condition 6) Excursions	28
5.5.	Source Testing.....	28
5.5.1.	Voluntary Source Test (VST).....	28
5.5.2.	Compliance Source Test	29
5.6.	Long Term Dioxin and Furan Sampling System (LTSS).....	31
6.	Ambient Air Monitoring.....	33
7.	Noise Monitoring	36
8.	Soil Testing	36
9.	Groundwater and Surface Water Monitoring.....	37
9.1.	Surface Water Monitoring Results	37
10.	Inspections Maintenance and Repairs	40
10.1.	Containment Protocol Inspections	40
10.2.	Combustion Air Flow – Negative Pressure	41
10.3.	Maintenance Review.....	42
10.4.	Inspection Summaries	42
10.5.	Sewage Works.....	43
11.	Operational Issues and Mitigation Measures	43
12.	Emergency Situations	44
13.	Complaints and Inquiries.....	44
14.	Energy from Waste Advisory Committee (EFWAC)	45
15.	Training	46
16.	Comparison to Report Results from Prior Years	47
17.	Recommendations for Improvement.....	48
17.1.	Status of Recommendations from the 2020 Annual Report.....	48
17.2.	Recommendations for 2022.....	49

List of Tables

Table 1: Annual Report Requirements	6
Table 2: Municipal Solid Waste (MSW) Material Balance (Tonnes)	15
Table 3: Rejected Waste	17
Table 4: Residual Waste Shipments (Tonnes)	22
Table 5: Residual Waste Daily Maximum Storage (Tonnes)	23
Table 6: Boiler 1 Annual Emission Summary	25
Table 7: Boiler 2 Annual Emission Summary	26
Table 8: Continuous Emission Monitoring Systems Analyser Reliability (%).....	27
Table 9: Voluntary Source Test Summary.....	29
Table 10: Compliance Source Test Summary.....	30
Table 11: 2021 AMESA 12-Month Rolling Average.....	32
Table 12: Ambient Air Monitoring Program Summary	34
Table 13: Ambient Air Monitoring Quarterly Summary of Exceedances.....	35
Table 14: Groundwater and Surface Water Monitoring Program Summary	39
Table 15: Containment Periodic Inspections.....	40
Table 16: Complaint and Inquiry Summary	45
Table 17: EFWAC Meeting Summary	46

List of Appendices

Appendix 1: MECP EA / ECA 2021 Report Submittals.....	50
Appendix 2: Bottom and Fly Ash Sampling	51
Appendix 3: Voluntary Source Test.....	52
Appendix 4: Compliance Source Test.....	53
Appendix 5: Ambient Air Monitoring Station Locations.....	54
Appendix 6: Maintenance Summary.....	55

1. Introduction

The Regional Municipality of Durham, the Regional Municipality of York (collectively referred to as “the Regions”), and Covanta Durham York Renewable Energy Limited Partnership (“Covanta”) respectfully submit the 2021 Durham York Energy Centre (“DYEC”) Annual Report, covering operations during the 2021 calendar year.

This report is being submitted in accordance with Condition 15(1) of the Environmental Compliance Approval (“ECA”) 7306-8FDKNX, which states the following:

By March 31st following the end of each operating year, the Owner shall prepare and submit to the District Manager and to the Advisory Committee, an Annual Report summarizing the operation of the Site covering the previous calendar year.

The reporting requirements in Condition 15(1) of the ECA are listed in **Table 1** together with references to the sections of this report where those reporting requirements are addressed.

The DYEC is a thermal treatment facility used for the receipt of solid non-hazardous post-diversion municipal waste (“Waste”), temporary storage and thermal treatment of the Waste, abatement of the emissions from the processes and activities undertaken at the Site, handling, screening, sorting and / or conditioning of the residual wastes, and management of the wastewater and the non-contact stormwater generated at the Site. The Facility’s nominal electricity generation rate is 17.5 Megawatts and the nominal steam generation rate is approximately 67,200 kilograms per hour.

The Facility was built to operate on a continuous basis, 24 hours / day, seven days / week, except during periods of regularly scheduled maintenance. Waste may be delivered Monday through Saturday between 7:00 am to 7:00 pm. This operating schedule may be adjusted depending on demand and facility needs within the established protocol indicated in the ECA. The ECA was originally issued on June 28th, 2011 and amended on August 12th, 2014, October 24th, 2014, February 24th, 2015, December 23rd, 2015, and March 14th, 2016, April 22nd, 2020, and December 23rd, 2021. The final amendment

was issued to manage the increase in Waste receipt due to the COVID-19 pandemic. It contained conditions with options for an increase in waste tonnage processed up to 142,000 tonnes per year. The Amendment was in effect up until December 31st, 2021.

Table 1: Annual Report Requirements

ECA Condition 15		Section
(1)	By March 31 st following the end of each operating year, the Owner shall prepare and submit to the District Manager and to the Advisory Committee, an Annual Report summarizing the operation of the Site covering the previous calendar year. This Annual Report shall include, as a minimum, the following information:	NA
(a)	a summary of the quality and the quantity of the Wastes accepted at the Site, including the maximum amount of the Waste received annually and daily and the sources of the Waste;	2
(b)	a summary of the quality and the quantity of the Residual Waste shipped from the Site, including the analytical data required to characterize the Residual Waste, the off-Site destinations for the Residual Waste and its subsequent use, if known;	3 Appendix 2
(c)	estimated material balance for each month documenting the maximum amount of wastes stored at the Site;	3.3
(d)	annual water usage;	4.1
(e)	annual amount of the electricity produced and the annual amount of the electricity exported to the electrical grid;	4.2
(f)	summaries and conclusions from the records required by Conditions 14.(3) through 14.(8) of this Certificate;	NA
14.(3)	Daily Activities The Owner shall maintain an on-Site written or digital record of activities undertaken at the Site. All measurements shall be recorded	NA

ECA Condition 15		Section
in consistent metric units of measurement. As a minimum, the record shall include the following:		
14.(3)(a)	date of record and the name and signature of the person completing the report;	Onsite records
14.(3)(b)	quantity and source of the incoming Waste received at the Site;	2.2, 2.3
14.(3)(c)	records of the estimated quantity of Waste thermally treated in the Boilers;	2.3
14.(3)(d)	quantity of the Unacceptable Waste received at the Site by the end of the approved Waste receipt period and the type(s) of the Unacceptable Waste received;	2.4
14.(3)(e)	quantity and type of the Residual Waste shipped from the Site, including any required outgoing Residual Waste characterization results;	3.3 Appendix 2
14.(3)(f)	destination and / or receiving site(s) for the Residual Waste shipped from the Site;	3.1, 3.2
14.(3)(g)	quantity and type of any Rejected Waste accepted at the Site;	2.4
14.(3)(h)	destination and / or receiving site(s) for the Rejected Waste shipped from the Site;	2.4
14. (3)(i)	housekeeping activities, including litter collection and washing/cleaning activities, etc.	10.4
14.(3)(j)	amount of electricity produced	4.2
14.(3)(k)	amount of excess electricity exported to the electrical grid	4.2
14.(4) Monitoring and Testing Records The Owner shall maintain an on-Site written or digital record of activities undertaken at the Site. All measurements shall be recorded in consistent metric units of measurement. As a minimum, the record shall include the following:		NA

ECA Condition 15		Section
14.(4)(a)	day and time of the activity;	Onsite records
14.(4)(b)	all original records produced by the recording devices associated with the CEM Systems;	Onsite records
14.(4)(c)	a summary of daily records of readings of the CEM Systems, including: <ul style="list-style-type: none"> (i) the daily minimum and maximum 4-hour average readings for carbon monoxide; (ii) the daily minimum and maximum one-hour average readings for oxygen; (iii) the daily minimum and maximum 10-minute average readings for organic matter; (iv) the daily minimum and maximum 24-hour average readings for sulphur dioxide; (v) the daily minimum and maximum 24-hour average readings for nitrogen oxides; (vi) the daily minimum and maximum 24-hour average readings for hydrogen chloride; (vii) the daily minimum and maximum 6-minute average and 2-hour average opacity readings; and (viii) the daily minimum and maximum one-hour average readings for temperature measurements. 	5.1
14.(4)(d)	records of all excursions from the applicable Performance Requirements as measured by the CEM Systems, duration of the excursions, reasons for the excursions and corrective measures taken to eliminate the excursions;	5.3, 5.4
14.(4)(e)	all records produced during any Acoustic Audit;	7

ECA Condition 15		Section
14.(4)(f)	all records produced during any Source Testing;	5.5, Appendix 3, Appendix 4
14.(4)(g)	all records produced by the long-term sampling program for Dioxins and Furans required by this Certificate;	5.6
14.(4)(h)	all records produced during the Residual Waste compliance testing;	3.1, Appendix 2
14.(4)(i)	all records produced during the Soil Testing;	8
14.(4)(j)	all records produced during the Groundwater and Surface Water Monitoring required by this Certificate;	9
14.(4)(k)	all records produced during the Ambient Air Monitoring required by this Certificate;	6 Appendix 5
14.(4)(l)	all records associated with radiation monitoring of the incoming Waste, including but not limited to: (i) transaction number; (ii) hauler; (iii) vehicle ID; (iv) alarm level; (v) maximum CPS; (vi) $\mu\text{Sv} / \text{hr}$; (vii) comment; (viii) background CPS; (ix) driver time in and out; and (x) name of the Trainer Personnel that carried out the monitoring.	2.4
14.(4)(m)	results of the containment testing carried out in the buildings, conveyors, tanks and silos, as required;	10.1
14. (4)(n)	results the negative pressure in the Tipping Building carried out, as required.	10.2

ECA Condition 15	Section
<p>14.(5) Inspections / Maintenance / Repairs</p> <p>The Owner shall maintain an on-Site written or digital record of inspections and maintenance as required by this Certificate. As a minimum, the record shall include the following:</p> <ul style="list-style-type: none"> (a) the name and signature of the Trained Personnel that conducted the inspection; (b) the date and time of the inspection; (c) the list of any deficiencies discovered, including the need for a maintenance or repair activity; (d) the recommendations for remedial action; (e) the date, time and description of actions (repair or maintenance) undertaken; (f) the name and signature of the Trained Personnel who undertook the remedial action; and (g) an estimate of the quantity of any materials removed during cleaning of the Works. 	<p>10</p> <p>Appendix 6</p>
<p>14.(6) Emergency Situations</p> <p>The Owner shall maintain an on-Site written or digital record of the emergency situations. As a minimum, the record shall include the following:</p> <ul style="list-style-type: none"> (a) the type of an emergency situation (b) description of how the emergency situation was handled; (c) the type and amount of material spilled, if applicable; (d) a description of how the material was cleaned up and stored, if generated; and (e) the location and time of final disposal, if applicable; <p>and</p>	<p>12</p>

ECA Condition 15	Section
(f) description of the preventative and control measures undertaken to minimize the potential for re-occurrence of the emergency situation in the future.	
<p>14.(7) Complaints Response Records</p> <p>The Owner shall establish and maintain a written or digital record of complaints received and the responses made as required by this Certificate.</p>	13
<p>14.(8) Training</p> <p>The Owner shall maintain an on-Site written or digital record of training as required by this Certificate. As a minimum, the record shall include the following:</p> <ul style="list-style-type: none"> (a) date of training; (b) name and signature of person who has been trained; and (c) description of the training provided 	15
<p>Condition 15 (1)</p> <p>(g) the Emission Summary Table and the Acoustic Assessment Summary Table for the Facility as of December 31st from the previous calendar year;</p>	Appendix 3, Appendix 4
<p>(h) a summary of dates, duration and reasons for any environmental and operational problems, Boilers downtime, APC Equipment and CEM System malfunctions that may have negatively impacted the quality of the environment or any incidents triggered by the Emergency Response and Contingency Plan and corrective measures taken to eliminate the environmental impacts of the incidents;</p>	11
<p>(i) a summary of the dates, duration and reasons for all excursions from the applicable Performance Requirements as measured by the CEM Systems or as reported by the annual</p>	5.3, 5.4

ECA Condition 15	Section
Source Testing, reasons for the excursions and corrective measures taken to eliminate the excursions;	
(j) results of the evaluation of the performance of the long-term sampling system in determining the Dioxins and Furans emission trends and / or fluctuations for the year reported on as well as demonstrating the ongoing performance of the APC Equipment associated with the Boilers;	5.6
(k) dates of all environmental complaints relating to the Site together with cause of the Complaints and actions taken to prevent future Complaints and / or events that could lead to future Complaints;	13
(l) any environmental and operational problems that could have negatively impacted the environment, discovered as a result of daily inspections or otherwise and any mitigative actions taken;	11
(m) a summary of any emergency situations that have occurred at the Site and how they were handled;	12
(n) the results and an interpretive analysis of the results of the groundwater and surface water, including an assessment of the need to amend the monitoring programs;	9
(o) summaries of the Advisory Committee meetings, including the issues raised by the public and their current status;	14
(p) any recommendations to improve the environmental and process performance of the Site in the future;	17
(q) statement of compliance with this Certificate, including compliance with the O. Reg. 419/05 and all air emission limits based on the results of source testing, continuous monitoring and engineering calculations, as may be appropriate; and	1.1, 5.5, 6

ECA Condition 15	Section
(r) interpretation of the results and comparison to the results from previous Annual Reports to demonstrate the Facility's impact on the environment.	16

For a summary of the Environmental Assessment Notice of Approval (EA) / Environmental Compliance Approval (ECA) reports submitted to the Ministry of the Environment, Conservation and Parks (MECP) for the 2021 reporting year, refer to Appendix 1: MECP 2021 EA/ECA Report Submittals.

1.1. Statement of Compliance

During the 2021 calendar year, the DYEC operated in full compliance with the ECA.

2. Municipal Solid Waste

2.1. Waste Quality

The high quality of waste received at the Facility is achieved by implementing the following procedures:

- robust regional promotion and education programs to inform the public on how to source separate at the household level
- the provision of multiple receptacles to each household
- regionally enforced By-Laws that restrict generators from placing recyclable or hazardous materials in the waste stream
- regional waste contractors are required under contract to inspect and reject unacceptable waste if necessary, at the curbside;
- waste collected at the curbside is inspected at transfer stations before being repacked into highway haulers for delivery to DYEC; and
- during each hour of operation at DYEC, a truck, if present, is unloaded onto the Tipping Hall floor for a visual inspection before being pushed into the pit.

The design heat content of the waste is 13 MJ/kg. Due to the variability of waste, the actual estimated heat content varied throughout the year between 12.60 MJ/kg and 13.49 MJ/kg with an average of 13.14 MJ/kg. The waste received is relatively homogenous with low moisture content regardless of weather conditions. Refuse HHV (higher heating value or gross calorific / energy value energy) is monitored using a specific steam correlation equation that was developed during the acceptance tests completed in October 2015. In general, the refuse is well sorted, homogenous and has good combustion qualities.

2.2. Waste Source

Waste processed at the facility includes waste that is collected through curbside collection programs in Durham and York and through Waste Management Facilities. Curbside waste is delivered to a transfer station for inspecting and reloading into a 53-foot highway hauler. The following transfer stations in turn deliver the waste to the DYEC.

Regional Municipality of Durham

Miller Waste Systems - Pickering

Miller Waste Systems – Whitby

Waste Management - Courtice

Regional Municipality of York

York Region Waste Management Centre

Earl Turcott Waste Management Facility

2.3. Waste Quantity

The Facility received an Emergency Amendment on December 23, 2021 temporarily allowing an increase in the maximum thermal treatment rate from 140,000 to 142,000 tonnes for the year. In 2021, DYEC received 140,103.48 net tonnes of waste. Refer to **Table 2**.

Table 2: Municipal Solid Waste (MSW) Material Balance (Tonnes)

Month	Durham	York	Total MSW Received	Rejected / Unacceptable MSW	Net MSW Received	Estimated Maximum Daily Onsite Storage
January	9,672	2,693	12,365	0	13,128	2,520
February	8,363	2,825	11,188	0	10,579	2,694
March	5,871	1,753	7,624	0	8,337	2,283
April	9,825	2,696	12,521	0.30	13,645	2,428
May	9,553	2,627	12,180	0.86	12,488	2,409
June	9,913	2,867	12,780	0	12,538	2,416
July	10,270	2,845	13,115	0.87	13,429	2,442
August	10,310	2,782	13,092	0.00	13,243	2,479
September	7,712	1,795	9,507	0.00	11,019	2,337
October	7,919	1,814	9,733	0.00	10,606	2,689
November	10,334	2,702	13,036	0.20	12,443	2,423
December	10,079	2,887	12,966	0.92	13,914	2,125
Total	109,821	30,286	140,107	3.15	140,103	-

Note: All weights are recorded in tonnes and rounded to whole numbers except for Rejected / Unacceptable MSW.

The quantity of waste thermally treated in the Boilers during 2021 was 140,435 tonnes. This value is different from the amount of acceptable waste received due to pit inventory and carry over.

Condition 2(4) of the ECA limits the amount of waste that can be accepted at the Facility to 1,520 tonnes per day. The maximum amount of waste received in one day was 966.22 tonnes on May 28, 2021.

Condition 2(5)(a) limits the maximum amount of waste that can be stored in the Waste pit to 7,350 cubic metres. The greatest amount of waste stored in the Waste Pit was

approximately 2,694 tonnes (approximately 6,492 m³) on February 5, 2021. (MSW density = 415 kg / m³).

2.4. Rejected Waste

Rejected waste refers to either municipal waste that cannot be processed at the Facility or waste which the site is not approved to accept. Rejected waste includes, but is not limited to, Bulky Unprocessable Items and Unacceptable Waste.

2.4.1. Unacceptable Waste

Unacceptable Waste refers to incoming waste which does not meet the incoming waste quality criteria, is of hazardous nature, and/or requires caution when handling.

The DYEC truck scale is equipped with an LFM-3 Radiation Detection System. It is a multipurpose, modular system with two remote radiation detector assemblies. The detector assemblies oppose each other so that incoming vehicles can pass between them. Radiation detected includes low, medium, and high energy gammas and X-rays (>20keV). A handheld alarming Personal Radiation Detector (PRD) is also available for use when the mounted detectors are being serviced / calibrated and to precisely locate any radioactive material within the truck when the LFM-3 system detects elevated radiation. All records associated with the radiation monitoring of incoming waste are stored and available at the DYEC. No loads were rejected from the facility due to radiation during 2021.

Unacceptable Waste that is not of the hazardous content is screened by the Equipment Operator and stored in a secure berm area (which ensures no adverse effects from their storage) or in a dedicated cage outside the Tip Floor. On June 11th, 2018, the MECP was notified that an external fire safety inspection required compressed gas cylinders removed from the incoming waste be stored outside of the Tipping Floor in a secure cage. On June 13th, 2018, the local Environmental Officer attended the site to review the location of the secure cage. Condition 4(3)(a)(iv) requires the removal of Unacceptable Waste from the Facility within 4

days of its receipt or as acceptable to the District Manager. A letter from the MECP District Manager dated January 9th, 2015, allows the DYEC to extend this storage to 90 days per Regulation 347 made under the Environmental Protection Act, R.S.O. 1990. During 2021, three shipments of Unacceptable Waste were removed from the Facility within 90 days of generation. Refer to **Table 3** for tonnages, manifest numbers, and shipment dates for 2021.

2.4.2. Bulky Unprocessable Items

Bulky Unprocessable Items refers to incoming Waste received at the Site that cannot be processed in the Equipment. Three shipments of Bulky Unprocessable Items were removed from the Facility in 2021. These shipments included oversized items such as hot tubs, plastic totes and pipes. Refer to **Table 3** for tonnage and shipment dates.

Table 3: Rejected Waste

Date	Category	Manifest Number	Tonnes
26-Apr-2021	Unacceptable	C114978-3	0.30
07-May-2021	Bulky Unprocessable	NA	0.86
16-Jul-21	Unacceptable	NA	0.05
23-Jul-2021	Bulky Unprocessable	NA	0.87
19-Nov-2021	Unacceptable	NA	0.20
07-Dec-2021	Bulky Unprocessable	NA	0.92
Total			3.15

Note: Only one removal required a manifest. All other shipments did not contain hazardous items.

Unacceptable Wastes were removed by Photech Environmental Solutions Inc., Waste Management System ECA – A841604, to Waste Disposal Site ECA - 6173-9UBLDJ.

Bulky Unprocessable Items were removed by Waste Management of Canada Corporation, Waste Management System ECA – A840311, and Waste Disposal Site ECA – A680243.

3. Residual Waste

Residual Waste refers to waste resulting from the waste processing activities at the Site and is limited to the recovered ferrous metals, the recovered non-ferrous metals, the bottom ash (untreated) and the fly ash (following conditioning). All Residual Waste is temporarily stored in an enclosed building prior to being removed from the Facility.

3.1. Ash

In accordance with ECA Condition 7(7)(d), the MECP approved Ash Sampling and Testing Protocol dated June 2014 (the “Protocol”), and was implemented on the Commencement Date of Operation, February 9th, 2015. The objectives of the sampling plans within the Protocol are listed below.

1. To confirm that bottom ash generated by DYEC contains by weight less than 10% of combustible materials following ASTM D5468 Standard Test Method for Gross Calorific and Ash Value of Waste Materials.
2. To confirm that fly ash sent for disposal is not leachate toxic after conditioning using the Toxicity Characteristic Leaching Procedure (TCLP), as defined in Regulation 347 and the EPA Method 1311.

Bottom ash was transported to Modern Landfill in Model City, New York while fly ash was transported to Walker Industries’ South Landfill in Thorold, Ontario. Both bottom and conditioned fly ash are mixed with soil and used as daily / interim cover.

3.1.1. Bottom Ash

The Bottom Ash Handling System receives and transports water-quenched bottom ash from the ash discharger to the Residue Storage Building. The Bottom Ash Handling System also includes equipment that provides for the separation of ferrous and non-ferrous metals from the bottom ash residue stream. The Residue

Storage Building is the temporary storage destination for all bottom ash residue and recovered metals before subsequent off-site removal.

During post commissioning operations, the bottom ash Comprehensive Ash Sampling Test Program (CASTP) consisted of sampling for five days yielding 4 daily composite samples for a total of 20 samples for submission to the laboratory for analysis. This process was repeated on an annual basis, until the compliance testing results indicated that the bottom ash met the "incinerator ash" definition from Ontario Regulation 347 for three (3) consecutive years. The first triennial CASTP was executed on November 11th, 2017 and the second triennial on October 24th, 2020.

A statistical analysis of the data is used to determine if the bottom ash has less than 10% combustible materials. This statistical evaluation follows the calculation procedures specified by US EPA, SW-846, *"Test Methods for Evaluating Solid Waste, Physical / Chemical Methods"*.

To ensure consistent bottom ash quality between the conduct of the subsequent CASTPs, on a quarterly basis, a one-day sample program is performed. The results are "rolled up" with the data collected subsequently to and including the last CASTP and evaluated in accordance with the statistical procedures stated above. In 2021, quarterly samples were performed on February 23rd, May 18th, September 20th, and November 9th.

The results in 2021 demonstrated the bottom ash met the "incinerator ash" definition from Ontario Regulation 347, thus it could be managed as a non-hazardous solid waste. The ash continues to be used as daily cover.

To comply with the requirements of the National Pollutant Release Inventory (NPRI), samples are collected to determine pollutant releases to land on a quarterly basis. The samples were collected on February 23rd, May 18th, September 20th, and November 9th, 2021.

Refer to **Appendix 2** for sampling results, statistical summaries, and plant operating conditions.

3.1.2. Fly Ash

The Fly Ash Handling System transports fly ash from the boiler and the Air Pollution Control (APC) system to the Residue Storage Building. It is conveyed into one of two surge bins from which it is metered into one of two pugmills for conditioning and stabilization. Stabilization of the fly ash requires a blend of pozzolanic material, Portland cement, and water. The pozzolan and cement are stored in silos located exterior to the Residue Storage Building. The pozzolan and cement are metered via rotary valves and conveyed into the pugmills via a shared conveyor. Finally, water is added in the pugmills to aid with the thorough mixing of fly ash, pozzolan, and cement to ensure microencapsulation. The ash mixture is then discharged into the first of seven fly ash bays. The ash mixture is kept on site for a sufficient time to allow the treatment reaction to complete before it is shipped to landfill for disposal. All reported weights for this material are inclusive of these reagents.

During post commissioning operations, the fly ash CASTP consisted of sampling for five days yielding 4 daily composite samples for a total of 20 samples for submission to the laboratory for analysis. This process was repeated for three (3) consecutive years to demonstrate compliance that no TCLP thresholds for the constituents analyzed have been exceeded. The first triennial CASTP, post annual demonstration of compliance, was executed from November 11th to November 15th, 2017. The second triennial CASTP was executed from November 21st to November 25th, 2020.

A statistical analysis of the data is used to determine if the fly ash exhibits Leachate Toxicity Criteria. This statistical evaluation follows the calculation procedures specified by US EPA, SW-846, "*Test Methods for Evaluating Solid Waste, Physical / Chemical Methods*".

During 2021, the DYEC was in the post commissioning triennial phase of fly ash testing and no TCLP was performed.

There were no shipments of untreated fly ash from the Facility during 2021. The ash continues to be used as daily cover.

On a quarterly basis, to comply with the requirements of the NPRI, samples are collected to determine pollutant releases to land. The samples were collected on February 23rd, May 18th, September 20th, and November 9th, 2021.

3.2. Metals

In February 2021, ferrous and non-ferrous metals were redirected to Triple M Metal LP at their Brampton location. There are no analytical requirements for the ferrous and non-ferrous metal streams leaving the DYEC. Ferrous and non-ferrous tonnages are summarized in **Table 4**.

3.3. Residual Waste – Material Balance

ECA Condition 2(5)(c to f) describes maximum storage restrictions for Residual Wastes. Amended by Notice 5 dated March 14th, 2016, the maximum storage durations were removed. The maximum storage limit for bottom ash is 630 tonnes, for fly ash is 700 tonnes, for ferrous metal is 77 tonnes, and for non-ferrous metal is 120 tonnes.

A material balance was prepared showing the amount of Residual Waste shipped per month and the daily maximum amount of waste stored on site per month. Refer to **Table 4** and **Table 5**.

The material balance reported in Table 5 reflects a change in calculation to the daily maximum amount of waste stored on site per month. To provide a more accurate representation, the values derived considers weekend accruals, refuse processed, monthly rate of Residual Waste production, and daily Residual Waste shipped.

Table 4: Residual Waste Shipments (Tonnes)

Limit / Month	Bottom Ash	Fly Ash	Ferrous	Non-Ferrous
January	2,254	1,100	301	37
February	2,104	935	277	62
March	1,439	750	142	20
April	2,420	1,470	283	32
May	2,476	1,021	260	49
June	2,571	1,120	249	33
July	2,350	1,167	320	57
August	2,360	1,112	283	31
September	1,945	924	259	20
October	1,598	1,031	249	30
November	2,522	1,220	312	36
December	2,505	1,094	298	31
Total	26,545	12,943	3,233	436

Note: All weights are rounded to whole numbers.

Table 5: Residual Waste Daily Maximum Storage (Tonnes)

Limit / Month	Bottom Ash	Fly Ash	Ferrous	Non-Ferrous
January	218	77	41	20
February	280	182	41	47
March	414	97	69	42
April	557	149	59	47
May	445	109	70	32
June	564	124	60	38
July	545	62	64	32
August	546	91	57	45
September	552	150	32	39
October	426	144	54	42
November	533	182	37	42
December	494	243	43	36

Note: All weights are rounded to whole numbers.

4. Utilities

4.1. Water

The DYEC is a zero-process water discharge facility, and as such, no water from the process is sent to the sanitary sewer system or discharged into the environment. Under normal operations, the DYEC operates at a water deficit and requires a water supply from the Region of Durham’s municipal water system. Wastewater generated by the Facility (except for sanitary discharges) is re-used in the process to cool flue gas and condition bottom and fly ash. Make up water is required to replenish these processes.

During 2021, 33,142 m³ of water was drawn from the municipal water system.

4.2. Electricity

During 2021, the turbine generated 122,250 MWh of electricity of which 104,520 MWh were exported to the grid.

5. Air Emissions

5.1. Continuous Emission Monitoring System (CEMS)

The CEMS installed at the DYEC meets the Installation and Performance Parameters listed in Schedule F of the ECA. The purpose of the CEMS is to continuously monitor flue gas to maximize Boiler combustion efficiency and minimize emissions. The system is equipped to display current values, perform calibration checks, generate daily reports showing minimum, maximum, and average readings, and display system status and emissions alarms. Data collected from this system is available to the public via the Region of Durham's website in accordance with ECA Condition 16 – Public Access to Documentation and is also displayed on the LED display board on the front of the DYEC Visitors Centre.

The CEMS and Data Acquisition System ("DAS") measure and record concentrations on a dry-basis for carbon monoxide (CO), oxygen (O₂), sulphur dioxide (SO₂), nitrogen oxides (NO_x), ammonia (NH₃), hydrogen chloride (HCl), hydrogen fluoride (HF), total hydrocarbons / organic matter (THC), temperature, and mass flow of flue gas. The DAS also measures and records concentrations for moisture (H₂O) and opacity. The location of the analysis sampling points were intentionally selected to allow the efficiency of the APC system to be closely monitored. Flue gas is analyzed prior to entering the APC evaporative cooler (Quench Inlet) as well as at the induced draft fan inlet (Baghouse Outlet) of each Boiler. Records of daily minimum, maximum, and average readings for CO (4-hour average), O₂, combustion and baghouse temperature (one-hour average), organic matter (10-minute average), SO₂, NO_x, HCl and HF (24-hour average), and opacity (6-minute and 2-hour average) are available at the site. Refer to **Table 6** and **Table 7** for Annual Emission Summaries.

A Relative Accuracy Test Audit (“RATA”) and associated system bias performance evaluations were completed on June 30th for Boiler 1 and June 29th, 2021 for Boiler 2. The RATA was completed while the Facility was operating at greater than 50% of the full thermal capacity as required by Environment Canada Report EPS 1/PG/7. Based on the RATA and associated system bias performance evaluation, all parameters met the criteria specified in Schedule F of the ECA.

Table 6: Boiler 1 Annual Emission Summary

Parameters	Averaging Periods	Units	Approval Limit	Minimum	Maximum	Average
Carbon Monoxide	4-hour rolling	mg / Rm ³	40	0	33	12
Opacity	2-hour rolling	%	5	0	3	1
Opacity	6-minute rolling	%	10	0	3	1
Oxygen	1-hour	%	≥6	7	22	8
Sulphur Dioxide	24-hour	mg / Rm ³	35	0	18	1
Nitrogen Oxides	24-hour	mg / Rm ³	121	91	114	110
Hydrogen Chloride	24-hour	mg / Rm ³	9	0	5	2
Combustion Temperature	1-hour	°C	≥1000	1035	1445	1217
Baghouse Temperature	1-hour	°C	>120 and <185	130	156	142
Organic Matter (THC)	10-minute	mg / Rm ³	NA	0	12	0

NOTE: Compliance of Organic Matter (THC) is monitored during source testing.

Table 7: Boiler 2 Annual Emission Summary

Parameters	Averaging Periods	Units	Approval Limit	Minimum	Maximum	Average
Carbon Monoxide	4-hour rolling	mg / Rm ³	40	3	33	11
Opacity	2-hour rolling	%	5	0	3	0
Opacity	6-minute rolling	%	10	0	2	1
Oxygen	1-hour	%	≥6	6	12	8
Sulphur Dioxide	24-hour	mg / Rm ³	35	0	14	1
Nitrogen Oxides	24-hour	mg / Rm ³	121	105	117	111
Hydrogen Chloride	24-hour	mg / Rm ³	9	0	6	5
Combustion Temperature	1-hour	°C	>1000	1014	1436	1302
Baghouse Temperature	1-hour	°C	>120 and <185	131	159	143
Organic Matter (THC)	10-minute	mg / Rm ³	NA	0	30	0

NOTE: Compliance of Organic Matter (THC) is monitored during source testing

5.2. Analyser Reliability

Schedule F of the ECA specifies the continuous monitoring and recording systems used to measure and record the temperature and emissions from the Boilers. The monitors for carbon monoxide, oxygen, hydrogen chloride, nitrogen oxides, sulphur dioxide, total hydrocarbons, opacity, and combustion zone temperature are required

to be operated and maintained so that accurate data is obtained during a minimum of 95 percent of the valid hours for each boiler for each calendar quarter in accordance with EPS 1/PG/7. For the purposes of reliability calculations, EPS 1/PG/7 defines a valid hour to be an hour during which the generating unit burned fuel and the associated continuous emission monitoring system produced a minimum of 30 minutes of valid data.

Based on the definition above, reliability for 2021 was calculated for each Boiler, for each calendar quarter, and confirmed to be greater than 95%. Refer to **Table 8**.

Table 8: Continuous Emission Monitoring Systems Analyser Reliability (%)

Boiler 1	O _{2e}	SO ₂	HCl	NO _x	CO	Opacity	THC	Combustion Temperature
Quarter 1	100	100	100	100	100	100	100	100
Quarter 2	99	99	99	99	99	100	99	100
Quarter 3	100	99	98	99	99	100	98	100
Quarter 4	100	98	98	98	98	100	97	100

Boiler 2	O _{2e}	SO ₂	HCl	NO _x	CO	Opacity	THC	Combustion Temperature
Quarter 1	98	100	100	100	100	100	100	100
Quarter 2	100	98	100	100	100	100	100	100
Quarter 3	100	100	99	100	100	100	99	100
Quarter 4	99	98	97	97	98	100	95	100

Note: O_{2e} means O₂ measured at the Economizer Outlet.

5.3. Performance Requirements (Schedule C) - Excursions

During 2021, there were no excursions to Performance Requirements as listed in Schedule C.

5.4. Performance Requirements (Condition 6) Excursions

During 2021, there were no excursions to Performance Requirements as listed in Condition 6.

5.5. Source Testing

Source testing refers to monitoring, sampling, and testing to determine rate of emission of the Test Contaminants listed in Schedule D of the ECA. The procedures and schedule outlined in Schedule E of the ECA were followed and the Facility was confirmed to be within the operating parameters defined by the ECA. The results of these programs are summarized below. Full reports are available on the DYEC website, in accordance with the ECA.

5.5.1. Voluntary Source Test (VST)

ORTECH Consulting Inc. completed a VST at the DYEC between June 15th and June 18th, 2021, to satisfy the requirement put forth by Durham Region Council to perform emission testing twice per year.

Voluntary source testing was performed on the Quench Inlets and Baghouse Outlets of both Boiler 1 and Boiler 2 for the test contaminants listed in Schedule “D” of the ECA.

The average results for the tests conducted along with the respective in-stack emission limits are summarized in **Table 9**.

Table 9: Voluntary Source Test Summary

Parameter	Limit	Boiler 1	Boiler 2
Total Suspended Particulate Matter (filterable)	9 mg / Rm ³	0.78	<0.25
Cadmium	7 µg / Rm ³	0.068	0.045
Lead	50 µg / Rm ³	0.44	0.32
Mercury	15 µg / Rm ³	<0.086	<0.081
Dioxins and Furans	60 pg / Rm ³	<4.10	<7.35
Organic Matter	50 ppm _{dv}	1.0	0.4
Hydrochloric Acid	9 mg / Rm ³	3.1	2.9
Sulphur Dioxide	35 mg / Rm ³	0.3	0.7
Nitrogen Dioxide	121 mg / Rm ³	109	110
Carbon Monoxide	40 mg / Rm ³	12.6	12.7

Note: Reference Conditions are dry and 25°C and 1 atmosphere, adjusted to 11% oxygen by volume.

These test results indicate that the facility demonstrated compliance with all respective in-stack ECA limits. Point of impingement concentrations (maximum ground level values) based on the average test results for both boilers were calculated using CALPUFF Dispersion Model Version 7.2.1 and were found to be well below the current standards in Regulation 419/05 for all the contaminants. Refer to Appendix 3.

5.5.2. Compliance Source Test

Ortech Consulting Inc. completed an emission testing program at the DYEC between November 28 and December 10, 2021 to satisfy the requirements of ECA Condition 7(1).

Compliance source testing was performed on the Quench Inlets and Baghouse Outlets of both Boiler 1 and Boiler 2 for the test contaminants listed in Schedule “D” of the ECA.

The average results for the tests conducted along with the respective in-stack emission limits are summarized in **Table 10**.

Table 10: Compliance Source Test Summary

Parameter	Limit	Boiler 1	Boiler 2
Total Suspended Particulate Matter (filterable)	9 mg / Rm ³	<0.48	<0.31
Cadmium	7 µg / Rm ³	0.064	<0.022
Lead	50 µg / Rm ³	0.46	0.17
Mercury	15 µg / Rm ³	<0.053	<0.053
Dioxins and Furans	60 pg / Rm ³	<14.7	<2.56
Organic Matter	50 ppmdv	0	0
Hydrochloric Acid	9 mg / Rm ³	2.2	1.8
Sulphur Dioxide	35 mg / Rm ³	0.3	0.2
Nitrogen Dioxide	121 mg / Rm ³	111	110
Carbon Monoxide	40 mg / Rm ³	9.7	11.7

Note: Reference Conditions are dry and 25°C and 1 atmosphere, adjusted to 11% oxygen by volume.

These test results indicate that the DYEC demonstrated compliance with all respective in-stack ECA limits. The predicted maximum point of impingement concentrations, based on the average test results for both boilers, were calculated using CALPUFF Dispersion

Model Version 7.2.1 show the facility to be operating well below all current standards in Regulation 419/05. Refer to Appendix 4.

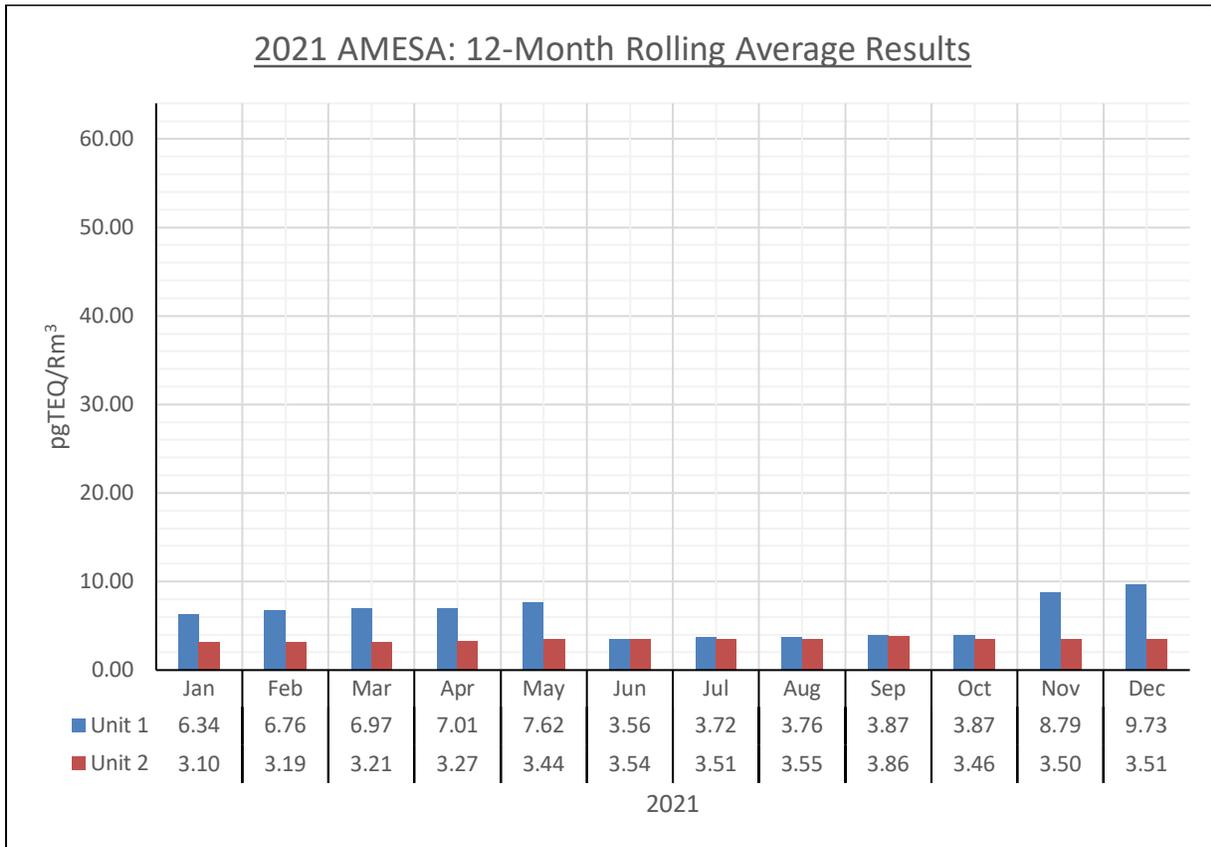
5.6. Long Term Dioxin and Furan Sampling System (LTSS)

The AMESA (Adsorption Method for Sampling) system, installed on each of the two units at DYEC, is a dioxin and furan continuous sampling system designed to meet the requirements of the ECA Condition 7(3). The system is used to trend sample analysis results and evaluate the ongoing performance of the APC equipment. All laboratory analyzed resultant values obtained from the AMESA samples, regardless of short-term or long-term sampling periods, are not used for verifying compliance with the regulatory limits for dioxins and furans.

In 2021, the AMESA sampler was installed on both units to collect data for performance evaluation during long-term sampling (+/- 28-day periods) as dictated by the operational availability of each Unit. A spacer cartridge was inserted in Unit 1 for the February run due to required repairs on a defective condensate pump. A replacement pump was sourced and expedited to the Facility in time to commence sampling following scheduled Spring Major Outage.

To properly track APC equipment performance, data points from the sampling runs were used to calculate 12-month rolling averages. The averages for 2021 are presented In **Table 11**.

Table 11: 2021 AMESA 12-Month Rolling Average



The Level of Quantification (LoQ) or the lowest concentration that can be accurately measured using sensitive but routine sampling and analytical methods is 32 pgTEQ/Rm³ @ 11%O₂ (Environment Canada, 1989). Data points outside of the Target Range threshold of greater than 100% of the LOQ were assessed to ensure only valid data points were used in the calculation of a rolling average. This follows the intended path forward established in the 2021 AMESA Workplan Summary Report. In accordance with this workplan summary, a comprehensive evaluation of operational conditions and maintenance activities was completed on Boiler 1 sampling runs for September and October 2021. These subject runs were invalidated due to non-isokinetic, non-steady state operating conditions during the sampling period resultant from equipment failure.

The averages obtained from the AMESA sample runs illustrate the capable performance of the APC system to minimize emissions. In the event the 12-month

rolling average exceeded greater than 100% of the LOQ (64 pgTEQ/Rm³ @ 11%O₂), operation of the Boiler and APC equipment would have been verified in conformance with the principles of the 2016 Abatement Plan.

In summary, the ongoing performance of the APC equipment has been successfully demonstrated in accordance with ECA condition 7(3)(b) using certified procedures applicable to source testing and the CEMS for 2021. There is a certain degree of confidence in the AMESA analysis resultant value trends to model process efficiency with an incidental awareness that on occasions, anomalous data points will occur due to conditions not representative of steady-state operation and isokinetic sampling. Both voluntary and compliance source testing demonstrated full compliance with all ECA Performance Requirements (Schedule C). These results are presented in **Section 5.5** of the Annual report.

6. Ambient Air Monitoring

Ambient air monitoring is a requirement of Condition 11 of the Environmental Assessment (EA) and Condition 7(4) of the ECA. Ambient air monitoring is undertaken in accordance with the Ambient Air Monitoring Plan approved by the MECP in May 2012. There are two ambient air monitoring stations. An upwind station located in close proximity to the southwest of the DYEC at the Courtyce Water Pollution Control Plant (Courtyce WPCP) collects potential contaminant data at a predominantly upwind location. A downwind station located northeast of the DYEC near the intersection of Baseline Road and Rundle Road, collects contaminant data in the most dominant wind direction. For a summary list of the ambient air monitoring stations and monitoring parameters, refer to **Table 12**. See **Appendix 5** for ambient air monitoring station locations.

Table 12: Ambient Air Monitoring Program Summary

Monitoring Station	Meteorological Data	Continuous Parameters	Non-Continuous Parameters
Upwind (Courtice (WPCP)	<ul style="list-style-type: none"> • Wind speed and direction (@10 metres) • Ambient temperature • Relative humidity • Rainfall • Barometric Pressure 	<ul style="list-style-type: none"> • Sulfur Dioxide (SO₂) • Nitrogen Dioxide (NO₂) • Particulate Matter (PM_{2.5}) 	<ul style="list-style-type: none"> • Metals • Total Suspended Particulate Matter (TSP) • Polycyclic Aromatic Hydrocarbons (PAH's) • Dioxins and Furans
Downwind (Baseline and Rundle Road)	<ul style="list-style-type: none"> • Wind speed and direction (@10 metres) • Ambient temperature • Relative humidity • Rainfall 	<ul style="list-style-type: none"> • Sulfur Dioxide (SO₂) • Nitrogen Dioxide (NO₂) • Particulate Matter (PM_{2.5}) 	<ul style="list-style-type: none"> • Metals • Total Suspended Particulate Matter (TSP) • Polycyclic Aromatic Hydrocarbons (PAH's) • Dioxins and Furans

Quarterly and annual ambient air reports have been submitted to the MECP since the start of the monitoring program in 2013 per their respective due dates outlined in the Operations Manual for Air Quality Monitoring in Ontario (Ministry of Environment and Climate Change, 2018). The 2021 Annual Ambient Air Monitoring report is due to the MECP by May 15th, 2021. All reports are publicly available on the DYEC website in accordance with ECA Condition 7(4)(c). All contaminants were below their applicable

MECP criteria as well as applicable Human Health Risk Assessment (HHRA) health-based standards with exceptions listed below in **Table 13**.

Table 13: Ambient Air Monitoring Quarterly Summary of Exceedances

Quarter	Parameter exceeded	Courtice Road Station events	Rundle Road Station events
Q1	Benzo(a)pyrene	1	2
	Sulphur Dioxide 10 minute	–	–
	Sulphur Dioxide 1 hour	–	–
Q2	Benzo(a)pyrene	–	–
	Sulphur Dioxide 10 minute	1	7
	Sulphur Dioxide 1 hour	1	3
Q3	Benzo(a)pyrene	–	–
	Sulphur Dioxide 10 minute	12	–
	Sulphur Dioxide 1 hour	4	–
Q4	Benzo(a)pyrene	1	4
	Sulphur Dioxide 10 minute	72	–
	Sulphur Dioxide 1 hour	32	–

A review of the stack continuous emissions monitoring data on the dates exceedances were recorded indicate that there were no unusual emission levels from the DYEC Continuous Emissions Monitoring Systems (CEMS) and no operational issues.

The current Ontario 24-hour Ambient Air Quality Criterion for benzo(a)pyrene was introduced in 2011 and levels above this threshold are commonly measured throughout Ontario. However, the benzo(a)pyrene measurements noted above were well below the MECP Schedule 6 Upper Risk Threshold and the MECP O.Reg. 419/05 24-hour average guideline.

New Ambient Air Quality Criteria (AAQC) for Sulphur dioxide were implemented in 2020, including a 10-minute rolling average AAQC of 67 parts per billion (ppb), a 1-hour rolling average AAQC of 40ppb and an annual AAQC of 4 ppb. Elevated concentrations of sulphur dioxide continue to be reported within the ambient air quarterly reports.

7. Noise Monitoring

On June 27th, 2017, a revised Noise Monitoring and Reporting Plan was submitted to the MECP. Acknowledgement was received from the MECP on September 21st, 2017. The revised report recommended the removal of the requirement to conduct annual acoustic measurements. This requirement was revoked by the MECP on February 24th, 2016, by Amendment Notice Number 4. The requirement for undertaking acoustic auditing could be reinstated if significant changes to facility operations with the potential to alter noise generation are proposed, or at the request of the MECP.

An annual review of the Noise Monitoring and Reporting Plan was completed in July 2021. No modifications to the Plan were required.

8. Soil Testing

Soil testing is required under Condition 7(10), 13(4) and 15(4) of the ECA and is undertaken in accordance with the Durham York Energy Centre Soils Testing Plan approved by the MECP in March 2013. In accordance with the approved plan, the parameters tested include metals, polycyclic aromatic hydrocarbons (PAHs), and dioxins and furans (PCDDs/PCDFs). Soil samples are evaluated against Table 1 Full Depth Background Site Condition Standards-Soil, of the Ground Water and Sediment Standards for Use Under part XV.1 of the *Environmental Protection Act*.

Soil testing commenced in August 2013 to quantify baseline contaminant concentrations prior to DYEC operations. Soil sampling and ambient air monitoring occur at the same locations, as required by Condition 13(4)(a) of the ECA and the approved Soils Testing Plan. Soil testing is performed once during each of the first three years of operation, and every three years thereafter until notification is received from the MECP Regional Director advising that soil monitoring is no longer required.

The most recent soils testing event was carried out on August 19, 2020. Results were documented in a Soils Testing Report dated October 20, 2020. In summary, soil parameter concentrations observed at the upwind and downwind soil sampling locations in 2020 were generally comparable to historical concentrations. Additionally, the observed concentrations of the analyzed parameters for the Upwind and Downwind sample aliquots satisfied the Table 1 criteria of the MECP Standards.

The next soil testing event is scheduled to be undertaken in August 2023.

Results from all soils testing events are available to the public on the DYEC website.

9. Groundwater and Surface Water Monitoring

Groundwater and surface water monitoring is a requirement of the EA Condition 20 and the ECA Condition 7(14). Monitoring is conducted in accordance with the Durham York Energy Centre Groundwater and Surface Water Monitoring Plan approved by the MECP in October 2011. The monitoring program started in December 2011, prior to the commencement of facility operations to collect background water quality data.

9.1. Surface Water Monitoring Results

In April 2016, the Regions requested a suspension of the surface water monitoring due to construction of the Courtice Road and Highway 401 interchange and the Tooley Creek realignment activities undertaken by the Ministry of Transportation. This has caused significant disruption and prevents the placement of sondes in Tooley Creek. In a response letter dated May 17th, 2016, the MECP granted the request and concurred with the interpretation of the surface water results to date. As a result, no

in-situ surface water sampling occurred in the upstream or downstream locations within Tooley Creek from 2017-2021. Groundwater Monitoring Results

Groundwater samples are collected annually in the fall through a series of dedicated on-site monitoring wells. In 2021, the groundwater analytical results for the required parameters of analysis satisfied their respective Ontario Drinking Water Standard (ODWS), except for select salt-related parameters within the groundwater at monitoring well MW4. Based on the interpreted groundwater flow direction and the analytical results for chloride and sodium at downgradient monitoring wells in closer proximity to the DYEC facility, there is no indication that the elevated concentrations of chloride and sodium within the groundwater at MW4 migrated downgradient as a result of DYEC waste treatment operations. The elevated concentrations of chloride and sodium detected at MW4 in 2021 are interpreted to be attributed to the seasonal exfiltration of salt-impacted surface water from the East Stormwater Management Pond (SWMP) that is interpreted to more easily migrate through the more permeable sandy silt and into the screened interval of monitoring well MW4.

An interpretive analysis for the 2021 groundwater and surface water monitoring activities will be discussed in the pending groundwater and surface water annual report. This report, covering the 2021 monitoring period, will be submitted to the MECP by April 30th, 2022, in accordance with the “Submission of Groundwater Well Development” letter dated January 28th, 2013 and the MECP acknowledgment letter dated March 4th, 2013.

Further discussion on the assessment of the monitoring plan and the need for amendments will be included in the annual groundwater and surface water report with supporting documentation. If any amendments are recommended, it will be discussed with the MECP.

Refer to **Table 14** for the groundwater well and in-situ surface water sonde locations and parameters tested.

Table 14: Groundwater and Surface Water Monitoring Program Summary

Groundwater Well ID	Groundwater Well Location	Monitoring Parameters
MW1	Northwest corner of site	Field Measurements, Major Anions, Major Cations, Metals
MW2A & 2B (nested)	Northeast corner of site	Field Measurements, Major Anions, Major Cations, Metals
MW3A & 3B (nested)	Southwest corner of site	Field Measurements, Major Anions, Major Cations, Metals
MW4	Southeast corner of site	Field Measurements, Major Anions, Major Cations, Metals
MW5 & 5B (nested)	Centre of site	Field Measurements, Major Anions, Major Cations, Metals

Surface Water Sonde ID	Sonde Location	Monitoring Parameters
SW01	Upstream in Tooley Creek	Field Measurements
SW02	Downstream in Tooley Creek	Field Measurements

The 2021 groundwater and surface water monitoring activities meet the compliance requirements of the EA, the ECA and the approved Groundwater and Surface Water Monitoring Plan. Groundwater and surface water monitoring results and correspondence available to date are posted on the DYEC website in accordance with ECA Condition 16 – Public Access to Documentation.

10. Inspections Maintenance and Repairs

10.1. Containment Protocol Inspections

The ECA outlines requirements to confirm the effectiveness of the containment of conveyors, tanks, and silos in various buildings on site, by conducting inspections, testing and / or engineering reviews. Initial containment testing (including negative pressure / smoke test of the Tipping Building) was conducted in 2014. The DYEC Containment Test Protocol, revised in September 2014, lists additional subsequent periodic inspections to be conducted.

All subsequent periodic inspections were conducted in accordance with the requirements outlined in **Table 15**.

Table 15: Containment Periodic Inspections

Containment Enclosure	Periodic Inspection
Tipping Building	<ul style="list-style-type: none">• Calibration of boiler combustion air flow venturi transmitter
Refuse Pit	<ul style="list-style-type: none">• Groundwater monitoring
Grizzly and Residue Buildings	<ul style="list-style-type: none">• Daily general inspections• Quarterly USEPA Method 22
Ammonia Tank	<ul style="list-style-type: none">• Daily general inspections• Annual calibration of alarms
Cement and Pozzolan Silos	<ul style="list-style-type: none">• Daily general inspections• Quarterly USEPA Method 22
Diesel Fueling Station	<ul style="list-style-type: none">• Daily general visual inspections
Fire Pump Diesel Tanks	<ul style="list-style-type: none">• Daily general visual inspections

Containment Enclosure	Periodic Inspection
Exterior Bottom and Fly Ash Conveyors	<ul style="list-style-type: none"> • Daily general inspections • Quarterly USEPA Method 22
Settling Basin	<ul style="list-style-type: none"> • Daily general visual inspections • Groundwater monitoring

10.2. Combustion Air Flow – Negative Pressure

While the Boilers are in operation, combustion air flow is maintained through the Tip Hall and pit area. The Facility induces airflow through the Tipping Building and across the pit by combustion air fans that pull the combustion air through the intake ducts located above the hoppers on the charging deck. A system of louvers is adjusted according to prevailing operating conditions, such as the number of Boilers in operation and if MSW is being delivered. Louver positions for various Boiler operating scenarios were developed during the 2014 containment (smoke) test. To ensure this works effectively, regular maintenance and inspection activities are performed to ensure that doors and roof vents are closed and that the building envelope remains in good condition. The doors and louvers are inspected for proper operation daily. These activities ensure that louver adjustments effectively contain odours within the Tip Hall and pit.

The continuous monitoring of the combustion airflow rate through the Tipping Building is a surrogate for confirming that an induced air flow is being maintained within the building. Temperatures, pressures, and flow rates are monitored throughout the combustion air and flue gas path. Combustion airflows (Combustion Air Flow Transmitters: 1/2-FIT-4202) in each of the two thermal treatment units are monitored continuously to ensure proper airflow (odour containment) in the Tipping Building is maintained. As operating conditions change (i.e., shutdowns, non-delivery times), the airflow is adjusted with the use of louvers on the north wall of the Tipping Building to maintain sufficient airflow to prevent the odours from leaving the building. An alarm indicator on the Distributed Control System (DCS) will alert the control room operator of low combustion air flows requiring possible louver repositioning. Periodic inspection

and annual verification of the combustion air flow transmitters is conducted in accordance with the Containment Test Protocol.

10.3. Maintenance Review

Planned maintenance and inspection activities are an important part of maintaining all plant processes and equipment. Covanta uses the PeopleSoft Asset Lifecycle Management system to track all maintenance and preventative maintenance activities at the DYEC. These activities include work identification, planning, scheduling, execution, detailing and cost-control, inventory management, preventive maintenance, purchasing, and equipment asset management. All critical equipment is systematically and repetitively inspected and tested. Critical equipment is also subjected to a systematic and detailed program of preventive maintenance repair and replacement. The system auto-generates work orders for all scheduled maintenance activities.

In 2021, scheduled preventative maintenance activities were completed on the Boilers, APC equipment, CEMS and other auxiliary systems. See Appendix 6 for details.

10.4. Inspection Summaries

Records of activities are written or digital and include the date of record and the name and / or signature of the person completing the written record.

An outside environmental checklist is completed by an operator daily to fulfill the requirements of ECA Condition 5(5) - Inspections. The weekly environmental inspection completed by the Facility's Environmental Specialist has moved from paper to an online application with the ability to assign tasks directly from the app. A facility wide housekeeping initiative is also in place. Once per month all available employees participate in a clean-up (washing, cleaning, litter pick up etc.) and note any environmental / operational issues.

All records are available at the site and will be retained on site for a minimum of seven (7) years from the date of their creation, per ECA Condition 14(2).

No environmental or operational problems that could have negatively impacted the environment were identified during these inspections in 2021.

10.5. Sewage Works

In accordance with ECA Condition 5, Inspections and Maintenance of the Works, (7), the Owner shall inspect the Works at least once a year and, if necessary, clean and maintain the Works to prevent the excessive build-up of sediments and / or vegetation.

The annual sewage works inspection was performed on November 3rd, 2021. No deficiencies were found.

11. Operational Issues and Mitigation Measures

Under normal circumstances with at least one Boiler in operation, the Facility maintains odour containment within the waste storage area by drawing combustion air from inside the building, which prevents odours from escaping. In cold iron outage situations where both Boilers were offline, odour control mitigation measures were implemented to minimize any potential offsite environmental impacts. Mitigation measures included diverting waste for disposal to alternate locations, misting micronutrients over the pit area and conducting regular on-site and off-site inspections to check for fugitive odours.

The DYEC entered cold iron outages (both Boilers offline) on the dates listed below.

Date	Duration	Cause
March 2 to March 14	307 hours	Spring Major Outage
April 26 to April 27	11 hours	Rupture Disc repair

Date	Duration	Cause
May 26	10 hours	Utility Trip (external)
August 24	17 hours	Steam valve repair
September 26 to October 6	238 hours	Fall Minor Outage

No off-site odour concerns were noted during any of the cold-iron outages.

There were no CEM System malfunctions that may have negatively impacted the quality of the environment. Additional details on CEM System operational performance are provided in **Section 5 - Air Emissions**.

There were no interruptions or problems with APC equipment that may have negatively impacted the quality of the environment.

There were no operational issues in 2021 with potential to impact the environment.

12. Emergency Situations

There were no reportable spills to land, water, or air during 2021.

On September 20th, 2021, a hot load was discovered during offload from a hauler truck on the Tip Floor. In accordance with the Emergency Action Plan, the refuse was extinguished and the remaining load in the hauler truck was re-directed to the designated Hot Load Area for further inspection by the Clarington Fire Department. No further smoldering or fire was observed by the Fire Department.

13. Complaints and Inquiries

The monitoring of complaints and inquiries is a requirement of EA Condition 6 and ECA Condition 10. A Complaint and Inquiry Log submission is provided to the MECP York Durham District Office District Manager monthly in accordance with the “Waste Complaint

Protocol for Design, Construction & Operations” approved by the MECP in July 2011. Hard copies and digital records of complaints and the complaint investigation and responses are maintained on-site. All Complaint and Inquiry Logs are available on the DYEC website. A summary of the 2021 complaints and inquiries are listed in **Table 16**. Any inquiries, comments or complaints in regards to the DYEC Environmental Screening Report for additional processing capacity up to 160,000 tonnes per year will be treated separately in the Record of Consultation.

Table 16: Complaint and Inquiry Summary

Year	Durham	York	Covanta	Total
Complaints to DYEC directly	–	–	–	–
Complaints to Regional Councils	–	–	–	–
Inquiries to DYEC directly	13	–	–	13
Inquiries to Regional Councils	11	–	–	11

14. Energy from Waste Advisory Committee (EFWAC)

The Energy from Waste Advisory Committee (EFWAC) is a requirement of the EA Condition 8 and ECA Condition 17. The committee was established in 2011 with membership outlined in EA Condition 8. The meetings were advertised on the DYEC website in advance of upcoming meetings. The EFWAC is governed by their Terms of Reference which outlines the role of the EFWAC, presents guidelines for how the committee will operate, the membership composition, and when meetings will take place. The committee is chaired by a facilitator hired by the Regions of Durham and York. A summary of the 2021 EFWAC Committee meeting is provided in **Table 17**.

Table 17: EFWAC Meeting Summary

EFWAC Meeting #	Date	Time	Agenda Topics
18	November 29, 2021	2:00-4:00 PM	<ul style="list-style-type: none">• Durham York Energy Centre 2020 Annual Compliance Report• Emergency ECA Amendment• Permit Amendment for 160,000 tonnes per year capacity.• Terms of Reference for Possible Future Expansion to 250,000 Tonnes per Year Capacity.

The minutes from the meeting held November 29, 2021 will be posted to the DYEC website following acceptance of the draft minutes by the members at the next meeting.

15. Training

The operator training program for the DYEC was developed to be a comprehensive program to ensure the Facility has technically competent, safe, and environmentally conscious operators. All operators are trained with respect to Condition 9 of the ECA, per the specific job requirements of each individual operator. All written or digital records of training including date of training, name and signature of the person who was trained and a description of the training provided will be maintained on site for seven (7) years from the date of their creation per Condition 14(2). In addition to new hire training, training is continuously provided when procedures or equipment change and as a refresher.

16. Comparison to Report Results from Prior Years

Stack Emissions

Since 2016, there have been 11 consecutive source tests that have demonstrated full compliance to all ECA limits. All dispersion modelling performed in conjunction with the source tests met the stipulated 24-hour average guideline limits within Ontario Regulation 419/05.

Ash Testing

Consistent with annual results from 2016 – 2020, 2021 bottom ash testing results continued to meet the definition of a solid non-hazardous material. See Appendix 2 for statistical analyses.

Ambient Air

Similar to previous operating years, all contaminants were below their applicable MECP criteria as well as applicable HHRA health-based standards with the exception of benzo(a)pyrene and Sulphur dioxide 10-minute rolling average and hourly rolling average. In 2020, the second quarter measured the majority of elevated SO₂ concentrations, whereas in 2021 the fourth quarter recorded a significant number of instances of elevated SO₂ concentrations for both the 10-minute rolling average and the hourly rolling average at the Courtice Station. New Ambient Air Quality Criteria (AAQC) for Sulphur dioxide were implemented in 2020, including a 10-minute rolling average AAQC of 67 parts per billion (ppb), a 1-hour rolling average AAQC of 40ppb and an annual AAQC of 4 ppb. Elevated concentrations of Sulphur dioxide will continue to be reported within the ambient air quarterly reports.

Groundwater and Surface Water

Similar to previous years, the 2021 groundwater monitoring activities meet the compliance requirements of the EA, the ECA and the approved Groundwater and Surface Water Monitoring Plan. Suspension of the surface water monitoring program continued

throughout 2021. Monitoring requirements will continue to be re-evaluated in consultation with the MECP.

Soil

The most recent soil testing event was carried out August 19, 2020. The results from the sampling event indicated results comparable to historical concentrations and satisfied the Table 1 criteria of the MECP Standards. The next soil testing event is scheduled to be undertaken in August 2023.

Complaints and Inquiries

There were no complaints received in 2021. There was a reduction in the amount of both facility inquiries and complaints in 2021. Compared to 2020, complaints decreased by 100%. Complaints and inquiries continue to be recorded.

17. Recommendations for Improvement

17.1. Status of Recommendations from the 2020 Annual Report

Recommendations for 2020

1) Continue to improve Facility Energy Recovery

Status: Energy retrofit measures were undertaken in 2021 with lighting replacement within the Facility to reduce parasitic load. Equipment challenges offset the improvements from this project. However, 2021 demonstrated significant gains in a year-over-year comparison to 2019. Net energy recovery in 2021 was 744 kWh/tonne MSW processed compared to 2019 where net energy recovery was 703 kWh/tonne MSW processed.

2) Maintain ISO 14001:2015 Environmental Management System (EMS) Certification

Status: ISO14001:2015 EMS certification was initially granted on January 28, 2018. A recertification audit was conducted on January 7 and 8, 2021 without any non-conformances identified. The EMS continues to be effective in addressing

environmental risk and opportunities as well as assisting the Facility to fulfill all compliance obligations.

- 3) Continue to optimize facility operations to decrease reagent consumption while maintaining full compliance with all regulatory limits.

Status: Research in optimizing reagent usage was conducted in 2021 that demonstrated a strong potential for a reduction of reagent and water consumption without having an adverse effect on the conditioned ash or flue gas cleaning.

- 4) Optimize the demand for boiler feedwater treatment as it is energy and reagent intensive.

Status: Efforts during 2021 to optimize boiler feedwater treatment showed limited progress. Optimization will continue into 2022.

17.2. Recommendations for 2022

Below is a summary of recommendations to improve the environmental and process performance of the site.

- 1) Maintain ISO 14001:2015 Environmental Management System Certification.
- 2) Further explore the opportunities from 2021 to reducing reagent and water consumption while maintaining full compliance with all regulatory limits.
- 3) Continue to optimize the demand for boiler feedwater treatment.
- 4) Fine tune combustion operations control to reduce auxiliary fuel usage.

Appendix 1: MECP EA / ECA 2021 Report Submittals

Appendix 1: MECP EA/ECA Report Submittals

Report Type	Report Name	Submission Date
Ambient Air Monitoring Reports as per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2020 Ambient Air Q4 Report	February 12, 2021
Ambient Air Monitoring Reports as per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2020 Ambient Air Annual Report	May 14, 2021
Ambient Air Monitoring Reports as per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2021 Ambient Air Q1 Report	May 14, 2021
Ambient Air Monitoring Reports as per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2021 Ambient Air Q2 Report	August 13, 2021
Ambient Air Monitoring Reports as per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2021 Ambient Air Q3 Report	November 12, 2021
Ambient Air Monitoring Reports as per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2021 Ambient Air Q4 Report	Feb 14, 2021
Annual Report as per ECA (15)(1)	2020 Annual Report	March 30, 2021
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	January Complaint & Inquiry Log	April 27, 2021
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	February Complaint & Inquiry Log	April 27, 2021
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	March Complaint & Inquiry Log	April 27, 2021
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	April Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	May Complaint & Inquiry Log	–

Report Type	Report Name	Submission Date
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	June Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	July Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	August Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	September Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	October Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	November Complaint & Inquiry Log	–
Complaint and Inquiry Logs as per ECA 10(1), ECA 10(2), 14(7)	December Complaint & Inquiry Log	–
Compliance Monitoring Report as per EA 5.4	2021 Compliance Monitoring Report	November 3, 2021
Groundwater and Surface Water Monitoring Reports as per ECA 7(14)(b), EA 20.8	2020 Annual Groundwater and Surface Water Reports	April 28, 2021
Noise Monitoring and Mitigation Reports- Acoustic Audit Reports as per Noise Monitoring Plan	2021 Acoustic Audit	N/A
Odour Management and Mitigation Monitoring Report as per ECA 8(9)(b)	2021 Odour Management and Mitigation Monitoring Report	November 26, 2021
Soil Testing Report as per ECA 15(4)	Not required	Not required
Source Test as per ECA 7(1), Schedule E(1), ECA Schedule E(7) and Schedule E(8) respectively	2021 Source Test Report	March 8, 2022
Source Test as per ECA 7(1), Schedule E(1), ECA Schedule E(7) and Schedule E(8) respectively	Source Test Pre-test Plan	September 29, 2021
Source Test as per ECA 7(1), Schedule E(1), ECA Schedule	Notification to MECP 15 days prior to Source test	September 29, 2021

Report Type	Report Name	Submission Date
E(7) and Schedule E(8) respectively		
Third Party Audit Report as per ECA 15(3), EA 16	2020 Third Party Operations Audit	April 29, 2021
Waste Diversion Monitoring Report as per EA 10.4	2020 Annual Waste Diversion Reports	October 12, 2021 & October 29, 2021

Appendix 2: Bottom and Fly Ash Sampling

DURHAM YORK ENERGY CENTRE
SUMMARY OF LABORATORY RESULTS: BOTTOM ASH - SGS - ASTMD5468
Q4 2020 CASTP to Q4 2021

SAMPLE ID NUMBER	SAMPLE DATE	MOISTURE TOTAL (%)	LOSS ON IGNITION
DYEC/BA/201024/SGS-1	24-Oct-20	15.43	1.55
DYEC/BA/201024/SGS-2	24-Oct-20	14.96	1.12
DYEC/BA/201024/SGS-3	24-Oct-20	15.13	0.89
DYEC/BA/201024/SGS-4	24-Oct-20	15.13	1.32
DYEC/BA/201025/SGS-1	25-Oct-10	14.23	0.92
DYEC/BA/201025/SGS-2	25-Oct-10	14.14	0.99
DYEC/BA/201025/SGS-3	25-Oct-10	13.82	0.95
DYEC/BA/201025/SGS-4	25-Oct-10	13.88	0.88
DYEC/BA/201027/SGS-1	27-Oct-20	13.89	0.76
DYEC/BA/201027/SGS-2	27-Oct-20	14.43	<0.59
DYEC/BA/201027/SGS-3	27-Oct-20	14.05	<0.59
DYEC/BA/201027/SGS-4	27-Oct-20	13.90	<0.59
DYEC/BA/201028/SGS-1	28-Oct-20	16.14	<0.58
DYEC/BA/201028/SGS-2	28-Oct-20	15.86	<0.58
DYEC/BA/201028/SGS-3	28-Oct-20	18.37	<0.56
DYEC/BA/201028/SGS-4	28-Oct-20	15.77	<0.58
DYEC/BA/201029/SGS-1	29-Oct-20	13.82	<0.59
DYEC/BA/201029/SGS-2	29-Oct-20	13.87	<0.59
DYEC/BA/201029/SGS-3	29-Oct-20	13.71	<0.60
DYEC/BA/201029/SGS-4	29-Oct-20	13.83	<0.59
DYEC/BA/210223/SGS-1	23-Feb-21	21.15	0.97
DYEC/BA/210223/SGS-2	23-Feb-21	21.35	0.99
DYEC/BA/210223/SGS-3	23-Feb-21	21.11	1.03
DYEC/BA/210223/SGS-4	23-Feb-21	21.09	1.34
DYEC/BA/210518/SGS-1	18-May-21	12.84	0.59
DYEC/BA/210518/SGS-2	18-May-21	12.96	0.70
DYEC/BA/210518/SGS-3	18-May-21	13.09	<0.69
DYEC/BA/210518/SGS-4	18-May-21	12.76	0.54
DYEC/BA/210920/SGS-1	20-Sep-21	15.61	1.09
DYEC/BA/210920/SGS-2	20-Sep-21	15.50	0.95
DYEC/BA/210920/SGS-3	20-Sep-21	15.45	0.96
DYEC/BA/210920/SGS-4	20-Sep-21	15.55	0.88
DYEC/BA/211109/SGS-1	9-Nov-21	19.06	1.22
DYEC/BA/211109/SGS-2	9-Nov-21	14.94	0.99
DYEC/BA/211109/SGS-3	9-Nov-21	14.25	1.17
DYEC/BA/211109/SGS-4	9-Nov-21	10.51	1.32

CONSOLIDATED COMPOSITE SAMPLE STATISTICAL RESULTS

NUMBER OF SAMPLES	36
DEGREES OF FREEDOM	35
SAMPLE MEAN (XBAR)	0.87
SAMPLE VARIANCE (S^2)	0.08
STANDARD DEVIATION (S)	0.28
STD ERROR (S XBAR)	0.05
80% CI Upper Limit (actual)	0.93
MAXIMUM	1.55
MINIMUM	0.54

REGULATORY THRESHOLD **10**

NOTES:

- (a) Less than symbol (<) indicates laboratory result below the detection limit. The value used in this table is the detection limit provided by the laboratory.

Durham York Energy Centre
Summary of Plant Operating Conditions
Bottom and Fly Ash Sampling - 2021

2021	Scalehouse Record of Waste Received (tonnes)	Waste Processed (tonnes)	Combustion Temperature (avg C)	Combustion O₂ Level (avg %)	Carbon Monoxide Level (4 hour mg/Rm³ @11% O₂ avg)	Opacity (avg %)	Lime Use (kg)	Carbon Use (kg)	Ammonia Use (L)	Generated Ash (tonnes)
Q1: 23-FEB-21	581	497	1,295	9	9	1	7,430	252	2,545	61
Q2: 18-MAY-21	624	523	1,250	8	10	1	7,730	250	1,155	90
Q3: 20-SEP-21	558	408	1,196	9	13	0	8,200	254	1,674	87
Q4: 09-NOV-21	759	531	1,240	9	13	0	10,060	253	1,581	88

Appendix 3: Voluntary Source Test

Covanta Durham York Renewable Energy Limited Partnership, Durham York Energy Centre, 2021 Voluntary Compliance Emission Testing Program

Executive Summary

CalPuff Modelling for June 2021 Voluntary Source Testing at Durham York Energy Centre (Emission Summary Table)

Appendix B
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration Before Meteorological Anomaly Removal	Maximum POI Concentration After Meteorological Anomaly Removal [µg/m³]	Averaging Period	MECP POI Limit [µg/m³]	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit [%]	Notes	Version of Date of ACB List
1-methylnaphthalene	90-12-0	2.50E-07	Calpuff	3.09E-07	2.93E-07	24-hour	35.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2,4-Trichlorobenzene	120-82-1	2.51E-07	Calpuff	3.09E-07	2.93E-07	24-hour	400	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
1,2,4,5-Tetrachlorobenzene	95-94-3	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	1	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2-Dichlorobenzene	95-50-1	6.60E-07	Calpuff	1.87E-05	6.93E-06	1-hour	30500	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
2-methylnaphthalene	91-57-6	4.82E-07	Calpuff	5.93E-07	5.63E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
2,3,4,6-Tetrachlorophenol	58-90-2	3.82E-07	Calpuff	4.69E-07	4.45E-07	24-hour	0.75	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4,6-Trichlorophenol	88-06-2	3.82E-07	Calpuff	4.69E-07	4.45E-07	24-hour	1.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4-Dichlorophenol	120-83-2	3.82E-07	Calpuff	4.69E-07	4.45E-07	24-hour	33.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
3-Methylcholanthrene	56-49-5	3.82E-07	Calpuff	4.69E-07	4.45E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
7,12-Dimethylbenzo(a)anthracene	57-97-6	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acenaphthene	83-32-9	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acenaphthylene	208-96-8	1.39E-07	Calpuff	1.71E-07	1.67E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acetaldehyde	75-07-0	1.17E-05	Calpuff	1.44E-05	1.37E-05	24-hour	500	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Acetaldehyde	75-07-0	1.17E-05	Calpuff	1.44E-05	1.37E-05	24-hour	5000	Health	Sch. 6	URT	—	<1%	—	—
Acrolein	107-02-8	9.50E-08	Calpuff	1.17E-07	1.11E-07	24-hour	0.4	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	9.50E-08	Calpuff	2.69E-06	9.96E-07	1-hour	4.5	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	9.50E-08	Calpuff	1.17E-07	1.11E-07	24-hour	4	Health	Sch. 6	URT	—	<1%	—	Apr-18
Ammonia	7664-41-7	4.89E-02	Calpuff	6.02E-02	5.71E-02	24-hour	100	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Ammonia	7664-41-7	4.89E-02	Calpuff	6.02E-02	5.71E-02	24-hour	1000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Anthracene	120-12-7	8.39E-08	Calpuff	1.03E-07	9.79E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Antimony	7440-36-0	1.68E-06	Calpuff	2.06E-06	1.96E-06	24-hour	25	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Arsenic	7440-38-2	1.67E-06	Calpuff	2.05E-06	1.95E-06	24-hour	0.3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Barium	7440-39-5	6.66E-05	Calpuff	8.20E-05	7.78E-05	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Benzene	71-43-2	1.40E-04	Calpuff	7.96E-06	7.96E-06	Annual	0.45	Health	Sch. 3	Standard	B1	<1%	Note 19, Table 2, 3 URT - Note 4, Table 4	Apr-18
Benzene	71-43-2	1.40E-04	Calpuff	1.72E-04	1.64E-04	24-hour	100	Health	Sch. 6	URT/DAV	B1	<1%	—	—
Benzene	71-43-2	1.40E-04	Calpuff	7.96E-06	7.96E-06	Annual	4.5	Health	—	AAV	—	<1%	—	Apr-18
Benzo(a)anthracene	56-55-3	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)fluorene	238-84-6	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)pyrene	50-32-8	7.63E-08	Calpuff	4.34E-09	4.34E-09	Annual	0.0001	Health	Sch. 3	Standard	B1	<1%	Note 7, 19, Table 2, 3 URT - Note 4, Table 4	Apr-18
Benzo(a)pyrene	50-32-8	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.005	Health	Sch. 6	URT	—	<1%	—	Apr-18
Benzo(a)pyrene	50-32-8	7.63E-08	Calpuff	4.34E-09	4.34E-09	Annual	0.0001	Health	—	AAV	—	<1%	—	Apr-18
Benzo(b)fluoranthene	205-99-2	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(b)fluorene	243-17-4	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(b)pyrene	192-97-2	8.30E-08	Calpuff	1.09E-07	1.04E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(k)fluoranthene	191-24-2	2.03E-07	Calpuff	2.50E-07	2.37E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(k)fluoranthene	207-08-9	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Beryllium	7440-41-7	1.67E-06	Calpuff	2.05E-06	1.95E-06	24-hour	0.01	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Biphenyl	92-51-3	6.55E-07	Calpuff	8.06E-07	7.64E-07	24-hour	175	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromodichloromethane	75-27-4	9.03E-05	Calpuff	1.11E-04	1.05E-04	24-hour	350	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromoform	75-25-2	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	55	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Bromomethane	74-83-9	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	1350	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Cadmium	7440-43-9	2.19E-06	Calpuff	2.70E-06	2.56E-06	24-hour	0.025	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Cadmium	7440-43-9	2.19E-06	Calpuff	2.70E-06	2.56E-06	24-hour	0.25	Health	Sch. 6	URT	—	<1%	—	Apr-18
Carbon Monoxide	630-08-0	5.13E-01	Calpuff	1.74E+01	6.45E+00	1/2-hour	6000	Health	Sch. 3	Standard	B1	<1%	Note 9	Apr-18
Carbon tetrachloride	56-23-5	7.26E-05	Calpuff	8.94E-05	8.48E-05	24-hour	2.4	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Carbon tetrachloride	56-23-5	7.26E-05	Calpuff	8.94E-05	8.48E-05	24-hour	24	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chlorobenzene	108-90-7	1.40E-05	Calpuff	3.91E-04	1.47E-04	1-hour	3500	Health/Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	—
Chlorobenzene	108-90-7	1.40E-05	Calpuff	6.55E-04	2.42E-04	10-minute	4500	Health/Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	—
Chloroform	67-66-3	1.01E-04	Calpuff	1.24E-04	1.18E-04	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Chloroform	67-66-3	1.01E-04	Calpuff	1.24E-04	1.18E-04	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chromium (hexavalent)	18540-29-9	3.06E-05	Calpuff	1.74E-06	1.74E-06	Annual	0.00014	Health	Sch. 3	Standard	B1	1%	Notes 11, 19, Table 2, 3 URT - Note 4, Table 4	Apr-18
Chromium (hexavalent)	18540-29-9	3.06E-05	Calpuff	3.76E-05	3.57E-05	24-hour	0.07	Health	Sch. 6	URT	—	<1%	—	—
Chrysene	218-01-9	8.58E-08	Calpuff	1.06E-07	1.00E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Cobalt	7440-48-4	2.44E-06	Calpuff	3.00E-06	2.85E-06	24-hour	0.1	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Copper	7440-50-8	1.58E-04	Calpuff	1.95E-04	1.85E-04	24-hour	50	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Dibenz(a,c)anthracene	215-58-7	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dibenz(a,h)anthracene	53-70-3	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dichlorodifluoromethane	75-71-8	7.69E-05	Calpuff	9.46E-05	8.98E-05	24-hour	500000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Dichloroethene, 1,1-	75-34-3	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	165	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloroethene, 1,1-	75-34-3	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	1650	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dichloromethane	75-09-2	3.56E-04	Calpuff	4.38E-04	4.16E-04	24-hour	220	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloromethane	75-09-2	3.56E-04	Calpuff	4.38E-04	4.16E-04	24-hour	22000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dioxins, Furans and Dioxin-like PCBs	N/A	0.00023 µg TEQ/s	Calpuff	0.00028 µg TEQ/m³	0.00027 µg TEQ/m³	24-hour	0.1 µg TEQ/m³	Health	Sch. 3	Standard	B1	<1%	Note 8, Ba, Table 1 URT - Note 4, Table 4	Apr-18
Ethylbenzene	100-41-4	7.24E-05	Calpuff	8.91E-05	8.45E-05	24-hour	1000	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	7.24E-05	Calpuff	3.39E-03	1.25E-03	10-minute	1900	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	7.24E-05	Calpuff	8.91E-05	8.45E-05	24-hour	14000	Odour	Sch. 6	URT	—	<1%	—	Apr-18
Ethylene Dibromide	106-93-4	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Fluoranthene	206-44-0	3.64E-07	Calpuff	4.48E-07	4.25E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Fluorides	7664-39-3	4.12E-03	Calpuff	5.07E-03	4.81E-03	24-hour	0.86	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.12E-03	Calpuff	7.05E-04	7.05E-04	30-day	0.34	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.12E-03	Calpuff	5.07E-03	4.81E-03	24-hour	1.74	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.12E-03	Calpuff	7.05E-04	7.05E-04	30-day	0.69	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.12E-03	Calpuff	5.07E-03	4.81E-03	24-hour	3.44	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.12E-03	Calpuff	7.05E-04	7.05E-04	30-day	1.38	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18

https://g

Appendix B
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration Before Meteorological Anomaly Removal	Maximum POI Concentration After Meteorological Anomaly Removal [µg/m ³]	Averaging Period	MECP POI Limit [µg/m ³]	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit [%]	Notes	Version of Date of ACB List
Fluorene	86-73-7	1.30E-07	Calpuff	1.60E-07	1.51E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Formaldehyde	50-00-0	2.60E-06	Calpuff	3.20E-06	3.03E-06	24-hour	65	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Hexachlorobenzene	118-74-1	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.011	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Hydrogen Chloride	7647-01-0	1.30E-01	Calpuff	1.60E-01	1.52E-01	24-hour	20	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Hydrogen Chloride	7647-01-0	1.30E-01	Calpuff	1.60E-01	1.52E-01	24-hour	200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Indeno(1,2,3-cd)pyrene	193-39-5	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Lead	7439-92-1	1.48E-05	Calpuff	1.82E-05	1.73E-05	24-hour	0.5	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Lead	7439-92-1	1.48E-05	Calpuff	2.53E-06	2.53E-06	30-day	0.2	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Lead	7439-92-1	1.48E-05	Calpuff	1.82E-05	1.73E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	Note ZURT - Note 4, Table 4	Apr-18
Mercury	7439-97-6	3.25E-06	Calpuff	4.00E-06	3.80E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Molybdenum	7439-98-7	1.92E-04	Calpuff	2.36E-04	2.24E-04	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Naphthalene	91-20-3	1.41E-06	Calpuff	1.74E-06	1.65E-06	24-hour	22.5	Health/Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Naphthalene	91-20-3	1.41E-06	Calpuff	6.61E-05	2.45E-05	10-minute	50	Health/Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Nickel	7440-02-0	4.29E-05	Calpuff	2.44E-06	2.44E-06	Annual	0.04	Health	Sch. 3	Standard	B1	<1%	Note 19, Table 2, 3URT - Note 4, Table 4	Apr-18
Nickel	7440-02-0	4.29E-05	Calpuff	5.28E-05	5.01E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	—	Apr-18
Nickel	7440-02-0	4.29E-05	Calpuff	2.44E-06	2.44E-06	Annual	0.4	Health	—	AAV	—	<1%	—	Apr-18
Nitrogen Oxides	10102-44-0	4.32E+00	Calpuff	5.31E+00	5.04E+00	24-hour	200	Health	Sch. 3	Standard	B1	3%	Notes 2, 17	Apr-18
Nitrogen Oxides	10102-44-0	4.32E+00	Calpuff	1.22E+02	4.53E+01	1-hour	400	Health	Sch. 3	Standard	B1	11%	Notes 2, 17	Apr-18
O-terphenyl	84-15-1	9.84E-08	Calpuff	1.21E-07	1.15E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	—
PM ₁₀ (Condensable and Filterable)	N/A	1.94E-01	Calpuff	3.17E-01	2.68E-01	24-hour	50	—	—	AAQC	—	<1%	—	—
PM ₁₀ (Filterable Only)	N/A	1.65E-02	Calpuff	2.33E-01	1.65E-01	24-hour	50	—	—	AAQC	—	<1%	—	—
PM _{2.5} (Condensable and Filterable)	N/A	1.89E-01	Calpuff	3.14E-01	2.62E-01	24-hour	30	—	—	AAQC	—	<1%	—	—
PM _{2.5} (Filterable Only)	N/A	1.07E-02	Calpuff	2.31E-01	1.65E-01	24-hour	30	—	—	AAQC	—	<1%	—	—
Pentachlorobenzene	608-93-5	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	80	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Pentachlorophenol	87-86-5	3.82E-07	Calpuff	4.69E-07	4.45E-07	24-hour	20	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Perylene	198-55-0	7.63E-08	Calpuff	9.39E-08	8.91E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Phenanthrene	85-01-8	1.92E-06	Calpuff	2.36E-06	2.24E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Pyrene	129-00-0	3.25E-07	Calpuff	4.00E-07	3.80E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Selenium	7782-49-2	8.44E-06	Calpuff	1.04E-05	9.86E-06	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Silver	7440-22-4	1.67E-06	Calpuff	2.05E-06	1.95E-06	24-hour	1	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Sulphur Dioxide	7446-09-5	1.79E-02	Calpuff	2.20E-02	2.09E-02	24-hour	275	Health & Vegetation	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023 Note ZURT - Note 4, Table 4	Apr-18
Sulphur Dioxide	7446-09-5	1.79E-02	Calpuff	5.07E-01	1.87E-01	1-hour	690	Health & Vegetation	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023 Note ZURT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	360	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	3600	Health	Sch. 6	URT	—	<1%	—	—
Tetraim	110-64-2	7.00E-07	Calpuff	8.61E-07	8.17E-07	24-hour	151.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Thallium	7440-28-0	1.67E-06	Calpuff	2.05E-06	1.95E-06	24-hour	0.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Toluene	108-88-3	6.13E-04	Calpuff	7.55E-04	7.16E-04	24-hour	2000	Odour	Sch. 3	Guideline	B1	<1%	To be updated - Note 5	Apr-18
Total Chromium (and compounds)	7440-47-3	3.06E-05	Calpuff	3.76E-05	3.57E-05	24-hour	0.5	Health	Sch. 3	Standard	B1	<1%	Note 11aURT - Note 4, Table 4	Apr-18
Total Chromium (and compounds)	7440-47-3	3.06E-05	Calpuff	3.76E-05	3.57E-05	24-hour	5	Health	Sch. 6	URT	—	<1%	—	Apr-18
Total Particulate Matter (Condensable and Filterable)	N/A	1.98E-01	Calpuff	3.19E-01	2.77E-01	24-hour	120	Visibility	Sch. 3	Standard	B1	<1%	—	Apr-18
Total Particulate Matter (Filterable only)	N/A	1.99E-02	Calpuff	2.34E-01	1.66E-01	24-hour	120	Visibility	Sch. 3	Standard	B1	<1%	—	Apr-18
Trichloroethane, 1,1,1 -	71-55-6	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	115000	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Trichloroethene	86-42-0	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	12	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	1200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Trichlorofluoromethane	75-69-4	7.29E-05	Calpuff	8.97E-05	8.51E-05	24-hour	6000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Vanadium	7440-62-2	9.30E-07	Calpuff	1.14E-06	1.09E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Vinyl chloride	75-01-4	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Vinyl chloride	75-01-4	7.21E-05	Calpuff	8.87E-05	8.42E-05	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Xylenes, m-, p- and o-	1330-20-7	2.67E-04	Calpuff	3.28E-04	3.11E-04	24-hour	730	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	2.67E-04	Calpuff	1.25E-02	4.62E-03	10-minute	3000	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	2.67E-04	Calpuff	3.28E-04	3.11E-04	24-hour	7300	Odour	Sch. 6	URT	—	<1%	—	Apr-18
Zinc	7440-66-6	2.61E-04	Calpuff	3.21E-04	3.05E-04	24-hour	120	Particulate	Sch. 3	Standard	B1	<1%	—	Apr-18

EXECUTIVE SUMMARY

NOTE: This report was updated on March 8, 2022. During the preparation of the 2021 compliance testing report (ORTECH Report No. 22085) an inconsistency was noted by ORTECH in regards to the units being used in the analytical reports for acetaldehyde, formaldehyde and acrolein. Upon review by ALS, the analytical laboratory, it was determined that the data for the 2021 compliance testing program was correct but there may have been an issue with the data reported for previous testing programs. ORTECH requested that all historical aldehyde data be reviewed by ALS to identify if an error in reporting had occurred. ALS determined that the units used to report the acetaldehyde, formaldehyde and acrolein data was incorrect for this, the 2021 voluntary testing program. The data was previously reported as ng and should have been reported as µg and as a result the emission data for these parameters was previously under reported. ORTECH has revised this 2021 voluntary testing report to correct the acetaldehyde, formaldehyde and acrolein emission data and dispersion modelling. As discussed below, this correction does not impact the compliance status of the facility.

ORTECH Consulting Inc. (ORTECH) completed a voluntary compliance emission testing program at the Durham York Energy Centre (DYEC) located in Courtice, Ontario between June 15 and June 18, 2021. The voluntary emission testing program was performed at the request of the Regions of Durham and York. The current test program is the sixth voluntary test program conducted at the facility.

Ontario Ministry of the Environment, Conservation and Parks (MECP) Amended Environmental Compliance Approval (ECA) No. 7306-8FDKNX Section 7(1) states that “the owner shall perform annual source testing, in accordance with the procedures and schedule outlined in the attached Schedule E, to determine the rates of emissions of the test contaminants from the stack. The program shall be conducted not later than six months after the commencement date of operation of the facility/equipment and subsequent source testing programs shall be conducted once every calendar year thereafter”. A list of the test programs conducted by ORTECH to date is provided below:

Test Program	Test Date	ORTECH Report No.
2015 Compliance	September/October 2015	21546
2016 Voluntary	May 2016	21656
2016 Compliance	October/November 2016	21698
2017 Voluntary	May 2017	21754
2017 Compliance	October 2017	21800
2018 Voluntary	May/June 2018	21840
2018 Compliance	September 2018	21880
2019 Voluntary	June 2019	21936
2019 Compliance	September 2019	21960
2020 Voluntary	June 2020	22001
2020 Compliance	November 2020	22050
2021 Voluntary	June 2021	22081

Source testing was performed on the Baghouse (BH) Outlet of Boiler No. 1 and BH Outlet of Boiler No. 2 for the test contaminants listed in Schedule D of the ECA.

Triplicate emission tests were completed for particulate matter, metals, semi-volatile organic compounds, acid gases, volatile organic compounds, aldehydes and combustion gases at the BH Outlet of each Boiler. Triplicate emission tests were also completed for total hydrocarbons at the Quench Inlet of each Boiler. The contaminant groups included in the emission test program and the reference test methods used are summarized below:

Test Groups	Reference Method
Particulate and Metals	US EPA Method 29
PM _{2.5} /PM ₁₀ and Condensable Particulate	US EPA Methods 201A and 202
Semi-Volatile Organic Compounds	Environment Canada Method EPS 1/RM/2
Volatile Organic Compounds	US EPA SW-846 Method 0030 (SLO VOST modification)
Aldehydes	NCASI Method ISS/FP-A105.01
Halides and Ammonia	US EPA Method 26A
Combustion Gases:	
Oxygen and Carbon Dioxide	Facility CEM
Carbon Monoxide	Facility CEM
Sulphur Dioxide	Facility CEM
Nitrogen Oxides	Facility CEM
Total Hydrocarbons	ORTECH per US EPA Method 25A

Schedule C of ECA No. 7306-8FDKNX lists in-stack limits for the emissions of various compounds. In-stack emissions limits are given for particulate matter, mercury, cadmium, lead, dioxins and furans and organic matter for comparison with the results from compliance source testing. In-stack emission limits are also given for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide calculated as the rolling arithmetic average of data measured by a continuous emission monitoring system (CEMS).

Since relative accuracy and system bias testing was conducted in July 2020, the data recorded by the DYEC CEMS was used to assess against the in-stack emissions limits detailed in Schedule C of the ECA for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide. Note the DYEC CEMS data for the days when isokinetic testing was performed at each unit (June 15 to June 18, 2021) was used to determine the minimum, average and maximum concentrations of the combustion gases listed in the ECA. Concentration data measured by ORTECH on June 15 and June 16, 2021 was used to assess against the total hydrocarbons (organic matter) in-stack emissions limit detailed in Schedule C of the ECA.

Consistent with the approach commonly required by the MECP for compliance emission testing programs, the following results are conservative in the sense that when the analytical result is reported to be below the detection limit, the full detection limit is used to calculate emission data and is shown by a “<” symbol. Also, when one or both Boiler results are reported to be below the detection limit, the detection limit was used to conservatively estimate the total emission rate for the Main Stack.

The MECP “Summary of Standards and Guidelines to Support Ontario Regulation 419/05 – Air Pollution – Local Air Quality”, dated April 2012, provides an updated framework for calculating dioxin and furan toxicity equivalent concentrations which includes emission data for 12 dioxin-like PCBs. This document was replaced by “Air Contaminants Benchmarks List: standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, with the most recent version published on April 27, 2018, however the dioxin and furan toxicity equivalent calculation methodology remains the same. The dioxins, furans and dioxin-like PCBs toxicity equivalent emission data was also calculated using half the detection limit for those compounds not detected. The half detection limit data was used to assess against the dispersion modelling Point of Impingement limit. The toxicity equivalent concentrations calculated using the full detection limit, for those compounds less than the reportable detection limit, were used to assess against the in-stack limit detailed in Schedule C of the ECA.

The average results for the tests conducted at Boiler No. 1, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	381	-
Average Combustion Zone Temp. (°C)*	-	-	-	1242	-
Steam (tonnes/day)*	-	-	-	810	-
MSW Combusted (tonnes/day)*	-	-	-	195	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	589	-
Carbon Injection (kg/day)*	-	-	-	126	-
Lime Injection (kg/day)*	-	-	-	5134	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	0.63	0.49	1.22	0.78	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	5.51	<4.27	<4.02	<4.60	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	5.31	<4.13	<3.89	<4.45	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.12	<0.11	<0.11	<0.11	-
Ammonia (mg/Rm ³) ⁽¹⁾	2.30	1.70	1.31	1.77	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.020	0.12	0.060	0.068	7
Lead (µg/Rm ³) ⁽¹⁾	0.39	0.62	0.32	0.44	50
Mercury (µg/Rm ³) ⁽¹⁾	0.088	<0.086	<0.086	<0.086	15
Antimony (µg/Rm ³) ⁽¹⁾	<0.043	<0.041	<0.044	<0.043	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.043	<0.041	<0.044	<0.043	-
Barium (µg/Rm ³) ⁽¹⁾	1.71	1.48	2.30	1.83	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.043	<0.041	<0.044	<0.043	-
Chromium (µg/Rm ³) ⁽¹⁾	0.93	0.79	0.73	0.82	-
Cobalt (µg/Rm ³) ⁽¹⁾	0.12	0.10	<0.044	<0.089	-
Copper (µg/Rm ³) ⁽¹⁾	3.58	6.08	3.13	4.26	-
Molybdenum (µg/Rm ³) ⁽¹⁾	5.15	4.55	4.86	4.85	-
Nickel (µg/Rm ³) ⁽¹⁾	1.01	2.25	0.74	1.33	-
Selenium (µg/Rm ³) ⁽¹⁾	0.23	<0.20	<0.22	<0.22	-
Silver (µg/Rm ³) ⁽¹⁾	<0.043	<0.041	<0.044	<0.043	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.043	<0.041	<0.044	<0.043	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.022	<0.020	<0.022	<0.021	-
Zinc (µg/Rm ³) ⁽¹⁾	6.26	7.56	7.94	7.25	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<3.84	<5.09	<3.37	<4.10	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<440	<605	<496	<514	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<176	<169	<166	<171	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<254	<241	<286	<260	-
VOCs (µg/Rm ³) ⁽¹⁾	<100	<73.7	<73.6	<82.4	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<1801	<702	<439	<981	-
Total VOCs (µg/Rm ³) ⁽¹⁾⁽⁴⁾	<1901	<776	<513	<1063	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	1.5	1.1	0.5	1.0	50

* based on process data provided by Covanta

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

The average results for the tests conducted at Boiler No. 2, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	381	-
Average Combustion Zone Temp. (°C)*	-	-	-	1211	-
Steam (tonnes/day)*	-	-	-	808	-
MSW Combusted (tonnes/day)*	-	-	-	196	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	631	-
Carbon Injection (kg/day)*	-	-	-	128	-
Lime Injection (kg/day)*	-	-	-	4205	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	0.29	<0.30	0.16	<0.25	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	4.73	<4.95	<5.38	<5.02	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	4.46	<4.88	<5.32	<4.89	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.11	<0.099	<0.098	<0.10	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.91	0.74	0.63	0.76	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.054	0.047	0.034	0.045	7
Lead (µg/Rm ³) ⁽¹⁾	0.37	0.31	0.28	0.32	50
Mercury (µg/Rm ³) ⁽¹⁾	0.081	<0.078	0.083	<0.081	15
Antimony (µg/Rm ³) ⁽¹⁾	0.047	<0.043	0.041	<0.044	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.045	<0.043	<0.041	<0.043	-
Barium (µg/Rm ³) ⁽¹⁾	1.77	1.53	1.51	1.60	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.045	<0.043	<0.041	<0.043	-
Chromium (µg/Rm ³) ⁽¹⁾	0.88	0.67	0.73	0.76	-
Cobalt (µg/Rm ³) ⁽¹⁾	0.047	<0.043	0.021	<0.037	-
Copper (µg/Rm ³) ⁽¹⁾	4.10	3.59	3.88	3.86	-
Molybdenum (µg/Rm ³) ⁽¹⁾	5.13	5.19	4.72	5.01	-
Nickel (µg/Rm ³) ⁽¹⁾	1.02	0.82	0.76	0.87	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.22	<0.22	<0.20	<0.22	-
Silver (µg/Rm ³) ⁽¹⁾	<0.045	<0.043	<0.041	<0.043	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.045	<0.043	<0.041	<0.043	-
Vanadium (µg/Rm ³) ⁽¹⁾	0.038	<0.022	<0.020	<0.027	-
Zinc (µg/Rm ³) ⁽¹⁾	8.34	4.62	5.63	6.20	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽²⁾	<6.76	<8.35	<6.95	<7.35	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<341	<419	<387	<382	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<159	<165	<162	<162	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<312	<298	<216	<275	-
VOCs (µg/Rm ³) ⁽¹⁾	<74.5	<60.3	<137	<90.6	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<318	<331	<370	<340	-
Total VOCs (µg/Rm ³) ⁽¹⁾⁽⁴⁾	<393	<391	<507	<430	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0.1	0.1	0.9	0.4	50

* based on process data provided by Covanta

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

A summary of the minimum, average and maximum concentrations for the combustion gases measured by the DYEC CEMS with in-stack limits listed in the ECA is provided below for the two units.

Boiler No.	Parameter	Minimum	Average	Maximum	In-Stack Limit
Boiler No. 1	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	7.8	12.6	20.5	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	2.4	3.1	3.8	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	108	109	110	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0	0.3	1.0	35
Boiler No. 2	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	8.3	12.7	24.8	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	2.5	2.9	3.5	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	109	110	111	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0	0.7	2.3	35

(1) 4-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

(2) 24-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

The emission data measured at each Boiler BH Outlet during the testing program was combined and used to assess the emissions from the Main Stack against the current point of impingement criteria detailed in Ontario Regulation 419/05.

The CALPUFF dispersion modelling (using Version 6.263 as requested by the MECP) for the June 2021 emission testing program was performed by Golder Associates. A summary of the results are provided in the tables appended to this report (Appendix 27) based on calculated ground level Point of Impingement (POI) concentrations for the average total Main Stack emissions. As shown in the tables, the calculated impingement concentrations for all of the contaminants were well below the relevant MECP standards.

In summary, the key results of the emission testing program are:

- The facility was maintained within the operational parameters defined by the amended ECA that constitutes normal operation during the stack test periods. Testing was conducted at a steam production rate of greater than 804 tonnes of steam per day for each Boiler (approximately 99.0% of maximum continuous rating). The maximum continuous rating for the facility is 1614.7 tonnes of steam per day for the two Boilers combined (33.64 tonnes of steam per hour or 807.4 tonnes per day for each Boiler).
- The in-stack concentrations of the components listed in the ECA were all below the concentration limits provided in Schedule C of the ECA.
- Using CALPUFF dispersion modelling techniques, the predicted maximum point of impingement concentrations, based on the average test results for both boilers, show DYEC to be operating well below all current standards in Regulation 419/05 under the Ontario Environmental Protection Act and other MECP criteria including guidelines and upper risk thresholds.

Tables referenced in this report for the tests conducted at Boiler No. 1 and Boiler No. 2 are provided in Appendix 1 and Appendix 2, respectively.

Appendix 4: Compliance Source Test

Covanta Durham York Renewable Energy Limited Partnership, Durham York Energy Centre 2021 Compliance Emission Testing in Accordance with Amended Environmental Compliance Approval (ECA) No. 7306-8FDKNX

Executive Summary

CalPuff Modelling for September 2021 Compliance Source Testing at Durham York Energy Centre (Emission Summary Table)

Appendix B
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration Before Meteorological Anomaly Removal [µg/m ³]	Maximum POI Concentration After Meteorological Anomaly Removal [µg/m ³]	Averaging Period	MECP POI Limit [µg/m ³]	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit (%)	Notes	Version of Date of ACB List
1-methylnaphthalene	90-12-0	5.34E-07	Calpuff	7.39E-07	6.10E-07	24-hour	35.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2,4-Trichlorobenzene	120-82-1	2.09E-07	Calpuff	2.89E-07	2.39E-07	24-hour	400	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
1,2,4,5-Tetrachlorobenzene	95-94-3	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	1	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2-Dichlorobenzene	95-50-1	6.99E-07	Calpuff	2.23E-05	2.23E-05	1-hour	30500	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
2-methylnaphthalene	91-57-6	1.04E-06	Calpuff	1.44E-06	1.19E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
2,3,6-Tetrachlorophenol	58-90-2	5.84E-07	Calpuff	8.08E-07	6.67E-07	24-hour	0.75	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4,6-Trichlorophenol	88-06-2	5.84E-07	Calpuff	8.08E-07	6.67E-07	24-hour	1.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4-Dichlorophenol	120-83-2	5.84E-07	Calpuff	8.08E-07	6.67E-07	24-hour	33.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
3-Methylcholanthrene	56-49-5	4.71E-07	Calpuff	6.51E-07	5.38E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
7,12-Dimethylbenzo(a)anthracene	57-97-6	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acenaphthene	83-32-9	1.07E-07	Calpuff	1.48E-07	1.22E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acenaphthylene	208-96-8	3.03E-07	Calpuff	4.19E-07	3.46E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acetaldehyde	75-07-0	1.94E-03	Calpuff	2.68E-03	2.22E-03	24-hour	500	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acetaldehyde	75-07-0	1.94E-03	Calpuff	2.68E-03	2.22E-03	24-hour	5000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Acrolein	107-02-8	9.10E-05	Calpuff	1.26E-04	1.04E-04	24-hour	0.4	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	9.10E-05	Calpuff	2.98E-03	2.43E-04	1-hour	4.5	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	9.10E-05	Calpuff	1.26E-04	1.04E-04	24-hour	4	Health	Sch. 6	URT	—	<1%	—	Apr-18
Ammonia	7664-41-7	2.74E-02	Calpuff	3.79E-02	3.13E-02	24-hour	1000	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Ammonia	7664-41-7	2.74E-02	Calpuff	3.79E-02	3.13E-02	24-hour	1000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Anthracene	120-12-7	1.51E-07	Calpuff	2.09E-07	1.72E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Antimony	7440-36-0	1.19E-05	Calpuff	1.65E-05	1.36E-05	24-hour	25	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Arsenic	7440-38-2	3.05E-06	Calpuff	4.21E-06	3.48E-06	24-hour	0.3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Barium	7440-39-3	5.05E-05	Calpuff	6.98E-05	5.77E-05	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Benzene	71-43-2	2.22E-04	Calpuff	1.23E-05	1.23E-05	Annual	0.45	Health	Sch. 3	Guideline	B1	<1%	Note 19, Table 2, 3URT - Note 4, Table 4	Apr-18
Benzene	71-43-2	2.22E-04	Calpuff	3.08E-04	2.54E-04	24-hour	100	Health	Sch. 6	URT/DAV	B1	<1%	—	Apr-18
Benzene	71-43-2	2.22E-04	Calpuff	1.23E-05	1.23E-05	Annual	4.5	Health	—	AAV	—	<1%	—	Apr-18
Benzo(a)anthracene	56-55-3	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)fluorene	238-84-6	8.22E-08	Calpuff	1.14E-07	9.99E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)pyrene	50-32-8	7.78E-08	Calpuff	4.29E-09	4.29E-09	Annual	0.00001	Health	Sch. 3	Standard	B1	<1%	Note 7, 19, Table 2, 3URT - Note 4, Table 4	Apr-18
Benzo(a)pyrene	50-32-8	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.005	Health	Sch. 6	URT	—	<1%	—	Apr-18
Benzo(a)pyrene	50-32-8	7.78E-08	Calpuff	4.29E-09	4.29E-09	Annual	0.0001	Health	—	AAV	—	<1%	—	Apr-18
Benzo(b)fluoranthene	205-99-2	9.57E-08	Calpuff	1.32E-07	1.09E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(b)fluorene	243-17-4	8.08E-08	Calpuff	1.12E-07	9.23E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(e)pyrene	192-97-2	9.37E-08	Calpuff	1.30E-07	1.07E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(g,h)perylene	191-24-2	2.58E-07	Calpuff	3.57E-07	2.95E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(k)fluoranthene	207-08-9	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Beryllium	7440-41-7	2.33E-06	Calpuff	3.23E-06	2.66E-06	24-hour	0.01	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Biohexyl	92-51-3	4.75E-07	Calpuff	6.57E-07	5.42E-07	24-hour	175	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromodichloromethane	75-27-4	1.36E-05	Calpuff	1.88E-05	1.55E-05	24-hour	350	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromoform	75-25-2	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	55	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Bromomethane	74-83-9	1.20E-04	Calpuff	1.66E-04	1.37E-04	24-hour	1350	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Cadmium	7440-43-9	1.69E-06	Calpuff	2.33E-06	1.93E-06	24-hour	0.025	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Cadmium	7440-43-9	1.69E-06	Calpuff	2.33E-06	1.93E-06	24-hour	0.25	Health	Sch. 6	URT	—	<1%	—	Apr-18
Carbon Monoxide	630-08-0	4.23E-01	Calpuff	1.66E+01	5.26E+00	1/2-hour	6000	Health	Sch. 3	Standard	B1	<1%	Note 9	Apr-18
Carbon tetrachloride	56-23-5	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	2.4	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Carbon tetrachloride	56-23-5	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	24	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chlorobenzene	108-90-7	3.62E-06	Calpuff	1.19E-04	3.75E-05	1-hour	3500	Health	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Chlorobenzene	108-90-7	3.62E-06	Calpuff	1.96E-04	6.19E-05	10-minute	4500	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Chloroform	67-66-3	4.51E-05	Calpuff	6.24E-05	5.15E-05	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Chloroform	67-66-3	4.51E-05	Calpuff	6.24E-05	5.15E-05	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chromium (hexavalent)	18540-29-9	3.02E-05	Calpuff	1.67E-06	1.67E-06	Annual	0.00014	Health	Sch. 3	Standard	B1	1%	Notes 11, 19, Table 2, 3URT - Note 4, Table 4	Apr-18
Chromium (hexavalent)	18540-29-9	3.02E-05	Calpuff	4.18E-05	3.45E-05	24-hour	0.07	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chrysene	218-01-9	9.32E-08	Calpuff	1.29E-07	1.06E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Cobalt	7440-48-4	2.07E-06	Calpuff	2.86E-06	2.36E-06	24-hour	0.1	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Copper	7440-50-8	7.79E-05	Calpuff	1.08E-04	8.89E-05	24-hour	50	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Dibenzo(a,h)anthracene	215-58-7	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dibenzol(a,h)anthracene	53-70-3	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dichlorodifluoromethane	75-71-8	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	500000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Dichloroethene, 1,1-	75-34-3	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	165	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloroethene, 1,1-	75-34-3	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	1650	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dichloromethane	75-09-2	2.26E-04	Calpuff	3.12E-04	2.58E-04	24-hour	220	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloromethane	75-09-2	2.26E-04	Calpuff	3.12E-04	2.58E-04	24-hour	22000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dioxins, Furans and Dioxin-like PCBs	N/A	0.00033 ug TEQ/s	Calpuff	0.00046 ug TEQ/m ³	0.00038 ug TEQ/m ³	24-hour	0.1 ug TEQ/m ³	Health	Sch. 3	Guideline	B1	<1%	Note 8, 8a, Table 1URT - Note 4, Table 4	Apr-18
Ethylbenzene	100-41-4	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	1000	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	1.34E-05	Calpuff	7.22E-04	2.28E-04	10-minute	1900	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	14000	Not Applicable	Sch. 6	URT	—	<1%	—	Apr-18
Ethylene Dibromide	106-93-4	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Fluoranthene	206-44-0	7.06E-07	Calpuff	9.77E-07	8.06E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Fluorides	7664-39-3	4.05E-03	Calpuff	5.60E-03	4.63E-03	24-hour	0.8	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.05E-03	Calpuff	6.58E-04	6.58E-04	30-day	0.34	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.05E-03	Calpuff	5.60E-03	4.63E-03	24-hour	1.74	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.05E-03	Calpuff	6.58E-04	6.58E-04	30-day	0.69	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.05E-03	Calpuff	5.60E-03	4.63E-03	24-hour	3.44	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.05E-03	Calpuff	6.58E-04	6.58E-04	30-day	1.38	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18

Appendix B
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration Before Meteorological Anomaly Removal [µg/m ³]	Maximum POI Concentration After Meteorological Anomaly Removal [µg/m ³]	Averaging Period	MECP POI Limit [µg/m ³]	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit [%]	Notes	Version of Date of ACB List
Formaldehyde	50-00-0	6.30E-04	Calpuff	8.71E-04	7.20E-04	24-hour	65	Odour & Irritation	Sch. 3	Standard	B1	<1%	—	Apr-18
Hexachlorobenzene	118-74-1	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.011	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Hydrogen Chloride	7647-01-0	1.59E-01	Calpuff	2.20E-01	1.81E-01	24-hour	20	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Hydrogen Chloride	7647-01-0	1.59E-01	Calpuff	2.20E-01	1.81E-01	24-hour	200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Indeno[1,2,3-cd]pyrene	193-39-5	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Lead	7439-92-1	1.23E-05	Calpuff	1.71E-05	1.41E-05	24-hour	0.5	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Lead	7439-92-1	1.23E-05	Calpuff	2.00E-06	2.00E-06	30-day	0.2	Health	Sch. 3	Standard	B1	<1%	Note ZURT - Note 4, Table 4	Apr-18
Lead	7439-92-1	1.23E-05	Calpuff	1.71E-05	1.41E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	Note ZURT - Note 4, Table 4	Apr-18
Mercury	7439-97-6	2.08E-06	Calpuff	2.88E-06	2.38E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Molybdenum	7439-98-7	2.66E-04	Calpuff	3.68E-04	3.04E-04	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Naphthalene	91-20-3	4.24E-06	Calpuff	5.87E-06	4.85E-06	24-hour	22.5	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Naphthalene	91-20-3	4.24E-06	Calpuff	2.29E-04	7.26E-05	10-minute	50	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Nickel	7440-02-0	2.62E-05	Calpuff	1.44E-06	1.44E-06	Annual	0.04	Health	Sch. 3	Standard	B1	<1%	Note 19, Table 2, 3URT - Note 4, Table 4	Apr-18
Nickel	7440-02-0	2.62E-05	Calpuff	3.62E-05	2.99E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	—	Apr-18
Nickel	7440-02-0	2.62E-05	Calpuff	1.44E-06	1.44E-06	Annual	0.4	Health	—	AAV	—	<1%	—	Apr-18
Nitrogen Oxides	10102-44-0	4.37E+00	Calpuff	6.05E+00	5.00E+00	24-hour	200	Health	Sch. 3	Standard	B1	2%	Notes 2, 17	Apr-18
Nitrogen Oxides	10102-44-0	4.37E+00	Calpuff	1.43E+02	4.53E+01	1-hour	400	Health	Sch. 3	Standard	B1	11%	Notes 2, 17	Apr-18
O-terphenyl	84-15-1	7.83E-08	Calpuff	1.08E-07	8.94E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
PM ₁₀ (Condensable and Filterable)	N/A	1.79E-01	Calpuff	3.08E-01	2.50E-01	24-hour	50	—	—	AAQC	—	<1%	—	Apr-18
PM ₁₀ (Filterable Only)	N/A	1.37E-02	Calpuff	2.35E-01	1.67E-01	24-hour	50	—	—	AAQC	—	<1%	—	Apr-18
PM _{2.5} (Condensable and Filterable)	N/A	1.74E-01	Calpuff	3.05E-01	2.44E-01	24-hour	27	—	—	AAQC	—	<1%	—	Apr-18
PM _{2.5} (Filterable Only)	N/A	8.62E-03	Calpuff	2.33E-01	1.66E-01	24-hour	27	—	—	AAQC	—	<1%	—	Apr-18
Pentachlorobenzene	608-93-5	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	80	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Pentachlorophenol	87-86-5	5.84E-07	Calpuff	8.08E-07	6.67E-07	24-hour	20	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Perylene	198-55-0	7.78E-08	Calpuff	1.08E-07	8.89E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Phenanthrene	85-01-8	1.59E-06	Calpuff	2.20E-06	1.82E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Pyrene	129-00-0	8.33E-07	Calpuff	1.15E-06	9.51E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Selenium	7782-49-2	8.33E-06	Calpuff	1.15E-05	9.52E-06	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Silver	7440-22-4	1.67E-06	Calpuff	2.31E-06	1.90E-06	24-hour	1	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Sulphur Dioxide	7446-09-5	9.22E-03	Calpuff	1.27E-02	1.05E-02	24-hour	275	Health	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023 Note ZURT - Note 4, Table 4	Apr-18
Sulphur Dioxide	7446-09-5	9.22E-03	Calpuff	3.02E-01	9.55E-02	1-hour	690	Health	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023 Note ZURT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	1.79E-05	Calpuff	2.47E-05	2.04E-05	24-hour	360	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	1.79E-05	Calpuff	2.47E-05	2.04E-05	24-hour	3600	Health	Sch. 6	URT	—	<1%	—	Apr-18
Tetralin	119-64-2	6.52E-07	Calpuff	9.01E-07	7.44E-07	24-hour	151.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Thallium	7440-28-0	2.63E-06	Calpuff	3.64E-06	3.00E-06	24-hour	0.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Toluene	108-88-3	1.25E-03	Calpuff	1.73E-03	1.43E-03	24-hour	2000	Not Applicable	Sch. 3	Guideline	B1	<1%	To be updated - Note 5	Apr-18
Total Chromium (and compounds)	7440-47-3	3.02E-05	Calpuff	4.18E-05	3.45E-05	24-hour	0.5	Health	Sch. 3	Standard	B1	<1%	Note 11aURT - Note 4, Table 4	Apr-18
Total Chromium (and compounds)	7440-47-3	3.02E-05	Calpuff	4.18E-05	3.45E-05	24-hour	5	Health	Sch. 6	URT	—	<1%	—	Apr-18
Total Particulate Matter (Condensable and Filterable)	N/A	1.81E-01	Calpuff	3.09E-01	2.52E-01	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Total Particulate Matter (Filterable only)	N/A	1.56E-02	Calpuff	2.35E-01	1.67E-01	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Trichloroethane, 1,1,1 -	71-55-6	1.34E-05	Calpuff	1.85E-05	1.53E-05	24-hour	115000	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Trichloroethene	79-01-6	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	12	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	1200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Trichlorofluoromethane	75-69-4	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	6000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Vanadium	7440-62-2	2.35E-06	Calpuff	3.25E-06	2.69E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Vinyl chloride	75-01-4	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Vinyl chloride	75-01-4	2.67E-05	Calpuff	3.70E-05	3.05E-05	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Xylenes, m-, p- and o-	1330-20-7	5.34E-05	Calpuff	7.39E-05	6.10E-05	24-hour	730	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	5.34E-05	Calpuff	2.89E-03	9.14E-04	10-minute	3000	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	5.34E-05	Calpuff	7.39E-05	6.10E-05	24-hour	7300	Not Applicable	Sch. 6	URT	—	<1%	—	Apr-18
Zinc	7440-66-6	1.57E-04	Calpuff	2.17E-04	1.79E-04	24-hour	120	Particulate	Sch. 3	Standard	B1	<1%	—	Apr-18

EXECUTIVE SUMMARY

ORTECH Consulting Inc. (ORTECH) completed the annual compliance emission testing program at the Durham York Energy Centre (DYEC) located in Courtice, Ontario between November 28 and December 10, 2021. The emission testing program was performed to satisfy the requirements of the Ontario Ministry of the Environment, Conservation and Parks (MECP) Amended Environmental Compliance Approval (ECA) No. 7306-8FDKNX. Section 7(1) of the ECA states that “the owner shall perform annual source testing, in accordance with the procedures and schedule outlined in the attached Schedule E, to determine the rates of emissions of the test contaminants from the stack. The program shall be conducted not later than six months after the commencement date of operation of the facility/equipment and subsequent source testing programs shall be conducted once every calendar year thereafter”. This program is the thirteenth comprehensive Schedule E source testing program conducted at the facility. A list of the test programs conducted by ORTECH to date is provided below:

Test Program	Test Date	ORTECH Report No.
2015 Compliance	September/October 2015	21546
2016 Voluntary	May 2016	21656
2016 Compliance	October/November 2016	21698
2017 Voluntary	May 2017	21754
2017 Compliance	October 2017	21800
2018 Voluntary	May/June 2018	21840
2018 Compliance	September 2018	21880
2019 Voluntary	June 2019	21936
2019 Compliance	September 2019	21960
2020 Voluntary	June 2020	22001
2020 Compliance	November 2020	22050
2021 Voluntary	June 2021	22081
2021 Compliance	November/December 2021	22085

Source testing was performed on the Baghouse (BH) Outlet of Boiler No. 1 and BH Outlet of Boiler No. 2 for the test contaminants listed in Schedule D of the ECA.

Triplicate emission tests were completed for particulate matter, metals, semi-volatile organic compounds, acid gases, volatile organic compounds, aldehydes and combustion gases at the BH Outlet of each Boiler. Triplicate emission tests were also completed for total hydrocarbons at the Quench Inlet of each Boiler. The contaminant groups included in the emission test program and the reference test methods used are summarized below:

Test Groups	Reference Method
Particulate and Metals	US EPA Method 29
PM _{2.5} /PM ₁₀ and Condensable Particulate	US EPA Methods 201A and 202
Semi-Volatile Organic Compounds	Environment Canada Method EPS 1/RM/2
Volatile Organic Compounds	US EPA SW-846 Method 0030 (SLO VOST modification)
Aldehydes	NCASI Method ISS/FP-A105.01
Halides and Ammonia	US EPA Method 26A
Combustion Gases:	
Oxygen and Carbon Dioxide	Facility CEM
Carbon Monoxide	Facility CEM
Sulphur Dioxide	Facility CEM
Nitrogen Oxides	Facility CEM
Total Hydrocarbons	ORTECH per US EPA Method 25A

Schedule C of ECA No. 7306-8FDKNX lists in-stack limits for the emissions of various compounds. In-stack emissions limits are given for particulate matter, mercury, cadmium, lead, dioxins and furans and organic matter for comparison with the results from compliance source testing. In-stack emission limits are also given for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide calculated as the rolling arithmetic average of data measured by a continuous emission monitoring system (CEMS).

Since relative accuracy and system bias testing was conducted in June 2021, the data recorded by the DYEC CEMS was used to assess against the in-stack emissions limits detailed in Schedule C of the ECA for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide. Note the DYEC CEMS data for the days when isokinetic testing was performed at each unit (November 29 to December 2, 2021 for Boiler No. 1, and November 29 to December 2, 2021 and December 9 to December 10, 2021 for Boiler No. 2) was used to determine the minimum, average and maximum concentrations of the combustion gases listed in the ECA. Concentration data measured by ORTECH on November 28 and November 29, 2021 was used to assess against the total hydrocarbons (organic matter) in-stack emissions limit detailed in Schedule C of the ECA.

Consistent with the approach commonly required by the MECP for compliance emission testing programs, the following results are conservative in the sense that when the analytical result is reported to be below the detection limit, the full detection limit is used to calculate emission data and is shown by a “<” symbol. Also, when one or both Boiler results are reported to be below the detection limit, the detection limit was used to conservatively estimate the total emission rate for the Main Stack.

The MECP “Summary of Standards and Guidelines to Support Ontario Regulation 419/05 – Air Pollution – Local Air Quality”, dated April 2012, provides an updated framework for calculating dioxin and furan toxicity equivalent concentrations which includes emission data for 12 dioxin-like PCBs. This document was replaced by “Air Contaminants Benchmarks List: standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, with the most recent version published on April 27, 2018, however the dioxin and furan toxicity equivalent calculation methodology remains the same. The dioxins, furans and dioxin-like PCBs toxicity equivalent emission data was also calculated using half the detection limit for those compounds not detected. The half detection limit data was used to assess against the dispersion modelling Point of Impingement limit. The toxicity equivalent concentrations calculated using the full detection limit, for those compounds less than the reportable detection limit, were used to assess against the in-stack limit detailed in Schedule C of the ECA.

The average results for the tests conducted at Boiler No. 1, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	371	-
Average Combustion Zone Temp. (°C)*	-	-	-	1246	-
Steam (tonnes/day)*	-	-	-	802	-
MSW Combusted (tonnes/day)*	-	-	-	206	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	995	-
Carbon Injection (kg/day)*	-	-	-	126	-
Lime Injection (kg/day)*	-	-	-	4175	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	0.30	0.78	<0.38	<0.48	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	<3.34	<4.49	<3.99	<3.94	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	<3.21	<4.29	<3.93	<3.81	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.10	<0.10	<0.10	<0.10	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.52	0.53	0.53	0.53	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.043	0.043	0.11	0.064	7
Lead (µg/Rm ³) ⁽¹⁾	0.65	0.50	0.22	0.46	50
Mercury (µg/Rm ³) ⁽¹⁾	<0.054	<0.054	<0.052	<0.053	15
Antimony (µg/Rm ³) ⁽¹⁾	0.56	0.74	0.048	0.45	-
Arsenic (µg/Rm ³) ⁽¹⁾	0.25	<0.043	0.050	<0.11	-
Barium (µg/Rm ³) ⁽¹⁾	1.82	1.53	1.53	1.63	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.043	<0.043	0.14	<0.076	-
Chromium (µg/Rm ³) ⁽¹⁾	0.91	0.82	0.71	0.81	-
Cobalt (µg/Rm ³) ⁽¹⁾	0.032	0.026	0.13	0.063	-
Copper (µg/Rm ³) ⁽¹⁾	2.46	2.06	1.88	2.13	-
Molybdenum (µg/Rm ³) ⁽¹⁾	6.96	6.76	6.56	6.76	-
Nickel (µg/Rm ³) ⁽¹⁾	0.66	0.78	0.62	0.69	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.22	<0.22	<0.21	<0.21	-
Silver (µg/Rm ³) ⁽¹⁾	<0.043	<0.043	<0.042	<0.043	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.043	<0.043	0.19	<0.091	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.022	0.12	0.16	<0.098	-
Zinc (µg/Rm ³) ⁽¹⁾	4.59	5.72	4.75	5.02	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<13.0	<18.1	<12.9	<14.7	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<242	<128	<272	<214	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<347	<333	<349	<343	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<642	<356	<756	<585	-
VOCs (µg/Rm ³) ⁽¹⁾	<114	<65.0	<86.4	<88.6	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<95.8	<92.3	<105	<97.8	-
Total VOCs (µg/Rm ³) ⁽¹⁾⁽⁴⁾	<210	<157	<191	<186	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0	0	0	0	50

* based on process data provided by Covanta

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

The average results for the tests conducted at Boiler No. 2, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	376	-
Average Combustion Zone Temp. (°C)*	-	-	-	1311	-
Steam (tonnes/day)*	-	-	-	775	-
MSW Combusted (tonnes/day)*	-	-	-	184	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	709	-
Carbon Injection (kg/day)*	-	-	-	127	-
Lime Injection (kg/day)*	-	-	-	4169	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	0.28	<0.40	0.26	<0.31	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	<3.69	<4.46	<6.70	<4.95	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	<3.62	<4.25	<6.64	<4.84	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.10	<0.11	<0.11	<0.11	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.36	0.55	1.76	0.89	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.030	<0.021	0.014	<0.022	7
Lead (µg/Rm ³) ⁽¹⁾	0.26	0.15	0.11	0.17	50
Mercury (µg/Rm ³) ⁽¹⁾	<0.053	<0.052	<0.054	<0.053	15
Antimony (µg/Rm ³) ⁽¹⁾	0.40	<0.042	<0.044	<0.16	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.042	<0.042	<0.044	<0.043	-
Barium (µg/Rm ³) ⁽¹⁾	1.31	1.39	0.15	0.95	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.042	<0.042	<0.044	<0.043	-
Chromium (µg/Rm ³) ⁽¹⁾	0.72	0.62	0.87	0.74	-
Cobalt (µg/Rm ³) ⁽¹⁾	<0.042	<0.042	<0.044	<0.043	-
Copper (µg/Rm ³) ⁽¹⁾	1.96	1.67	1.94	1.86	-
Molybdenum (µg/Rm ³) ⁽¹⁾	6.52	7.01	7.12	6.88	-
Nickel (µg/Rm ³) ⁽¹⁾	0.42	0.47	1.10	0.66	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.21	<0.21	<0.22	<0.21	-
Silver (µg/Rm ³) ⁽¹⁾	<0.042	<0.042	<0.044	<0.043	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.042	<0.042	<0.044	<0.043	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.021	<0.021	<0.022	<0.021	-
Zinc (µg/Rm ³) ⁽¹⁾	3.16	2.65	3.21	3.01	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<2.22	<3.35	<2.10	<2.56	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<104	<77.1	<114	<98.1	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<168	<165	<164	<166	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<178	<215	<208	<201	-
VOCs (µg/Rm ³) ⁽¹⁾	<49.2	<55.3	<34.9	<46.5	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<36.5	<37.2	<44.5	<39.4	-
Total VOCs (µg/Rm ³) ⁽¹⁾⁽⁴⁾	<85.7	<92.5	<79.4	<85.9	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0	0	0	0	50

* based on process data provided by Covanta

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

A summary of the minimum, average and maximum concentrations for the combustion gases measured by the DYEC CEMS with in-stack limits listed in the ECA is provided below for the two units.

Boiler No.	Parameter	Minimum	Average	Maximum	In-Stack Limit
Boiler No. 1	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	6	9.7	17.5	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	1.7	2.2	2.5	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	111	111	112	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0	0.3	0.6	35
Boiler No. 2	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	7.3	11.7	23.0	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	0.5	1.8	3.1	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	109	110	111	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0	0.2	0.8	35

(1) 4-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

(2) 24-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

The emission data measured at each Boiler BH Outlet during the testing program was combined and used to assess the emissions from the Main Stack against the current point of impingement criteria detailed in Ontario Regulation 419/05.

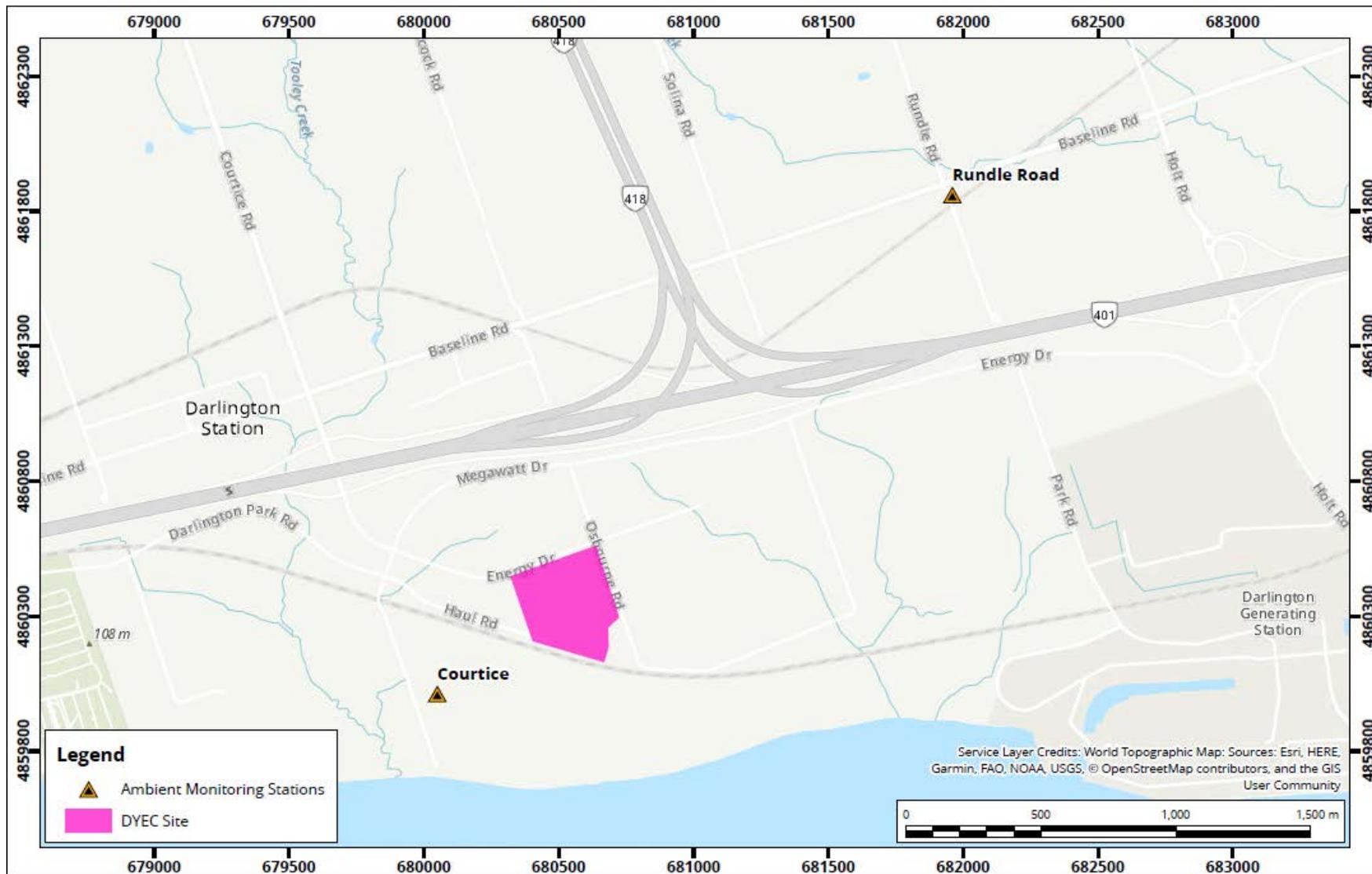
Dispersion modelling was completed using the CALPUFF model (using Version 7.2.1 level 141010 as approved by the MECP in December 2021) by Golder Associates. A summary of the results are provided in the tables appended to this report (Appendix 27) based on calculated ground level Point of Impingement (POI) concentrations for the average total Main Stack emissions. As shown in the tables, the calculated impingement concentrations for all of the contaminants were well below the relevant MECP standards.

In summary, the key results of the emission testing program are:

- The facility was maintained within the operational parameters defined by the amended ECA that constitutes normal operation during the stack test periods. Testing was conducted at a steam production rate of greater than 790 tonnes of steam per day for each Boiler (approximately 97.8% of maximum continuous rating). The maximum continuous rating for the facility is 1614.7 tonnes of steam per day for the two Boilers combined (33.64 tonnes of steam per hour or 807.4 tonnes per day for each Boiler). Note the November 30, 2021 steam production rate for Boiler No. 2 (679 tonnes of steam per day) was excluded as the process was down for a period of time due to a crane malfunction.
- The in-stack concentrations of the components listed in the ECA were all below the concentration limits provided in Schedule C of the ECA.
- Using CALPUFF dispersion modelling techniques, the predicted maximum point of impingement concentrations, based on the average test results for both boilers, show DYEC to be operating well below all current standards in Regulation 419/05 under the Ontario Environmental Protection Act and other MECP criteria including guidelines and upper risk thresholds.

Tables referenced in this report for the tests conducted at Boiler No. 1 and Boiler No. 2 are provided in Appendix 1 and Appendix 2, respectively.

Appendix 5: Ambient Air Monitoring Station Locations



DYEC Site and Ambient Monitoring Station Locations

Map Projection: NAD 1983 UTM Zone 17N
 DYEC - Region of Durham, Ontario



True North	Drawn by: DJH	Figure: 1
	Approx. Scale: 1:20,000	
Project #: 1803743	Date Revised: Apr 17, 2020	



Appendix 6: Maintenance Summary

Corrective Maintenance - January, 2021

Select	Work Order	Task Description	WO Type	Tag Number	Asset Description	Status
1	14638	Residue loader seat belt intermittent issues. Left side strap won't extend out at times and can be slow to retract. (Jan 13) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
2	14639	Boiler 1 quench outlet thermocouple 1-TT-4763-3 has failed. Quench flow is in manual. (Jan 13) (RB:JPURCELL)	CM	1-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 1	Complete
3	14637	Both carbon feeders shut off for a few seconds then came back on. No alarm came in. (RB:GCOWLEY)	CM	CF-TK-101	ACTIVATED CARBON LOSS IN WEIGHT FEEDER UNIT 1	Complete
4	14642	#1 boiler Run 1 Zone 4 plate needs rewelding leaking air from zone on the under fire air. (RB:FTROTTIE)	CM	RF-BO-101	BOILER UNIT 1	Complete
5	14640	solenoid #2 failed or diaphragm is blown please check and repair E146-02C (RB:KCOATHAM)	CM	FG-BG-102	BAGHOUSE COMPARTMENT 1 UNIT 1	Complete
6	14256	Roll up door by #1 ID fan .switch repair (RB:FTROTTIE)	CM	BLD-BLR	BOILER BUILDING	Complete
7	14257	Residue loader replace cutting edge on bucket (RB:FTROTTIE)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
8	14226	Month 12 Fire Protection Equipment Monthly Walk Down - Visitor's Centre - All exit signs in the VC are indicating a permanent red light. Please troubleshoot and repair accordingly. (RB:DPICKETT)	CM	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
9	14235	FAILED (RB:BMUIR)	CM	1-TE-G1S4B4	STOKER GRATE RUN 1, STEP 4, BAR 4 TEMPERATURE ELEMENT UNIT 1	Complete
10	14505	ECS belt failure. Belt worn and tracking off. Heavy wear and groove on east side load area (Jan 10) (RB:JPURCELL)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
11	14258	Door #108 to boiler house right door top hinge broken. (RB:FTROTTIE)	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Complete
12	14201	Steam turbine common trip. Cause unknown. TG tripped at 10:37 on Nov 1/2020 (RB:JPURCELL)	CM	TG-GV-100	STEAM TURBINE	Complete
13	14098	To provide Electrician for Power cable repair work for west crane.	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
14	14216	Battery fault alarm on panel. (RB:FTROTTIE)	CM	FPS-CM	FIRE PROTECTION SYSTEM CONTROL ROOM	Complete
15	14211	Carbon silo leaking from explosion doors during offload (periodic dusting). Baghouse system was pulsing and truck pressure was 4psi (Dec 7) (RB:JPURCELL)	CM	CF-SO-C01	ACTIVATED CARBON SILO	Complete
16	14633	baghouse compartment 205 outlet damper instrument air leak on cylinder (Jan 12) (RB:JPURCELL)	CM	FG-BG-205	BAGHOUSE COMPARTMENT 4 UNIT 2	Complete
17	14713	When first started leaking on return it stops leaking on shaft. (RB:FTROTTIE)	CM	SB-RET-202	EVAPORATOR RETRACTABLE SOOTBLOWER 2 UNIT 2	Complete
18	14710	Top eye wash station on cement and pozzolan silo shower part of station is frozen. (RB:FTROTTIE)	CM	C-FSH-2308	PORTLAND CEMENT/POZZOLAN SILOS SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete

Corrective Maintenance - January, 2021

Select	Work Order	Task Description	WO Type	Tag Number	Asset Description	Status
19	14711	Shower part of eye wash station is frozen. (RB:FTROTTIE)	CM	C-FSH-3816	AQUEOUS AMMONIA STORAGE TANK AREA SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete
20	14715	Residue building green electric rental heater has damaged fan and/or motor. Large noise coming from heater when turned on. Heater needs to be exchanged out/repaired (Jan 25) (RB:JPURCELL)	CM	BLD-RES	RESIDUE BUILDING	Complete
21	14714	Fly ash surge bin B spool piece has broken stud bolt on inspection hatch. Alternative methods have been used to keep hatch door closed. New stud bolt needs to be welded on (Jan 25) (RB:JPURCELL)	CM	AH-BIN-001B	FLYASH SURGE BIN B	Complete
22	14701	#1 feed water heater drain thermocouple TI-920 needs replaced.	CM	CD-HX-001	LOW PRESSURE FEEDWATER HEATER 1	Complete
23	14703	Procurement of Contactor and a disconnect switch for West Crane cabinet	CM	600-52-CRN1	600 V CIRCUIT BREAKER 52-CRN1 FOR REFUSE CRANE 1	Complete
24	14697	east side cable top u cable clamp is slipping needs tight up and checked. just above grapple. (RB:FTROTTIE)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
25	14698	Repair hole on east side view port .View port fell off and hole needs sealing till repairs can be fully done on shut down. (RB:FTROTTIE)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
26	14708	CBD flash tank level transmitter C-LIT-5101 intermittent indication loss to DCS. Operating in manual (Jan 23) (RB:JPURCELL)	CM	C-LT-5101	CONTINUOUS BLOWDOWN FLASH TANK LEVEL TRANSMITTER	Complete
27	14709	Repair grounding strap missing clamp to ground truck. (RB:FTROTTIE)	CM	C-UA-7858	PORTLAND CEMENT TRUCK UNLOADING CONTROL PANEL	Complete
28	14707	Feed chute damper will not close (RB:FTROTTIE)	CM	1-TCV-3016	FEEDCHUTE TEMPERATURE CONTROL VALVE UNIT 1	Complete
29	14718	Sensor error . Alarm will not clear on panel on east side of unit 2. (RB:FTROTTIE)	CM	2-FIC-3854	AQUEOUS AMMONIA INJECTION FLOW INDICATING CONTROL STATION UNIT 2	Complete
30	14719	We have been relying on a fan to help with cooling for quite some time, usually only on start-ups or swings in operation. Either way I was wondering if we needed to look into cleaning, sizing or other options for the HX. (RB:LMCDONEL)	CM	TO-HX-002A	TURBINE HIGH PRESSURE CONTROL OIL COOLER A	Complete
31	14654	martin tripped into semi-auto and no micc camera (RB:BMUIR)	CM	RF-PLC-101	STOKER PROCESS CONTROLS UNIT 1	Complete
32	14655	martin tripped to semi-auto, loss of controls (RB:BMUIR)	CM	RF-PLC-201	STOKER PROCESS CONTROLS UNIT 2	Complete
33	14652	Please repair insulation and check valve for operation of eye washer portion of this station (RB:FTROTTIE)	CM	C-FSH-2307	PORTLAND CEMENT/POZZOLAN UNLOADING AREA SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete

Corrective Maintenance - January, 2021

Select	Work Order	Task Description	WO Type	Tag Number	Asset Description	Status
34	14653	Please check out upper eye wash station no flow to eye portion of this eye station. (RB:FTROTTIE)	CM	C-FSH-2308	PORTLAND CEMENT/POZZOLAN SILOS SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete
35	14660	Boiler 2 zone 4 underfire air damper sticking 100% open. Damper has been manually positioned at 15% in the field. (Jan 9) (RB:JPURCELL)	CM	RF-GR-2012	STOKER GRATE RUN 2 UNIT 2	Complete
36	14659	Plattco valve from conveyor 201 to 202 .Need E&I to look at air cylinder is moving erratic ..Plattco valve is in manual and open till look at on Monday. (RB:FTROTTIE)	CM	AH-CV-201	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Complete
37	14646	leaking loud noise (RB:FTROTTIE)	CM	SB-ROT-111	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 1	Complete
38	14647	leaking seal (RB:FTROTTIE)	CM	SB-ROT-120	ECONOMIZER ROTARY SOOTBLOWER 20 UNIT 1	Complete
39	14644	leaking around shaft (RB:FTROTTIE)	CM	SB-RET-107	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 7 UNIT 1	Complete
40	14645	leak loud (RB:FTROTTIE)	CM	SB-ROT-109	ECONOMIZER ROTARY SOOTBLOWER 9 UNIT 1	Complete
41	14649	Vacuum breaker leaking all time. (RB:FTROTTIE)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete
42	14650	# 2 unit IR camera temp for CEM low temp. Call in E&I on jan 09 2021. (RB:FTROTTIE)	CM	CEM-STAT	CEM ALARM WORK STATION	Complete
43	14677	baghouse compartment 104 outlet damper instrument air leak on cylinder (Jan 12) (RB:JPURCELL)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
44	14692	dcx screens freezing and/or losing server, requiring restarts overhaul needed on system (RB:BMUIR)	CM	DCS-CAB	DCS PCU CABINETS	Complete
45	14676	Gauge stuck at 75 PSI ** if you want us to replace just let me know where some gauges are** (RB:LMCDONEL)	CM	SB-RET-205	SUPERHEATER 3 RETRACTABLE SOOTBLOWER 5 UNIT 2	Complete
46	14695	Boiler 2 CEM requested to be put in maintenance for combustion camera port cleaning at 02:00 January 19/2021. (RB:JPURCELL)	CM	BLD-CEM	CEMS ENCLOSURE	Complete
47	14696	control room Citect system not working correctly. Pens are not populating data (Jan 19) (RB:JPURCELL)	CM	BLD-CM	CONTROL ROOM	Complete
48	14694	Please check out gear transfer case and belts .Conveyor 1204 making noise at gear box.end. (RB:FTROTTIE)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
49	14664	Boiler 1 east gauge glass upper isolation valve leaks at packing on stem (Jan 4/2021) (RB:JPURCELL)	CM	MS-PIP-COM	MAIN STEAM HEADER PIPING, VALVES AND ATTACHMENTS	Complete
50	14662	Seal leaking around shaft (RB:FTROTTIE)	CM	SB-RET-106	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 1	Complete

Corrective Maintenance - January, 2021

Select	Work Order	Task Description	WO Type	Tag Number	Asset Description	Status
51	14672	ELE. 18 Ammonia eye wash unable to reset alarm. Tried to flush and did not come out. Shower and eye wash work fine but will not alarm in control room as alarm is stuck in. (RB:LMCDONEL)	CM	PW-SS-2010	BOILER BUILDING UNIT 2 WEST SAFETY SHOWER/EYEWASH STATION	Complete
52	14673	Gauge stuck at 100 PSI (RB:LMCDONEL)	CM	SB-RET-201	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 2	Complete
53	14206	Remove and install AMESA trap and pieces in Unit 1 on 10-Dec-20 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
54	14207	Remove and install AMESA trap and pieces in Unit 2 on 10-Dec-20 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
55	14202	Please have E&I take a look at the cement mixer required for mixing ash before submission to lab. It stopped turning. (RB:AHUXTER)	CMENV	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
56	14671	Remove and replace Unit 2 AMESA trap and pieces on 7-Jan-21 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
57	14670	Remove and exchange trap and pieces on Unit 1 AMESA on 7-Jan-21 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete

February 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	14831	#1 boiler flame scanner had to pull flame scanner for burner to lite. scanner was seeing flame. (RB:FTROTTIE)	CM	NG-PIP-1	NATURAL GAS PIPING VALVES AND ATTACHMENTS UNIT 1	Closed
2	14830	West crane grapple broken grapple cylinder broken .Needs repair (RB:FTROTTIE)	CM	RF-GRP-1	REFUSE CRANE HYDRAULIC GRAPPLE 1	Closed
3	14832	rotary valve not turning. showing on DCS and MCC that it is running (RB:GOWLEY)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Closed
4	14826	Please move video camera from Boiler 1 east side to Boiler 1 west side to view the sight glass as required under TSSA directive. (RB:KCOATHAM)	CM	TV-CAM-PROC	PROCESS CAMERAS	Closed
5	14827	Please move video camera from Boiler 2 east side sight glass to Boiler 2 west side to view the sight glass as required under TSSA directive. (RB:KCOATHAM)	CM	TV-CAM-PROC	PROCESS CAMERAS	Closed
6	14860	Repair Tip Floor Roll Up Door	CM	BLD-TIP	TIPPING FLOOR	Closed
7	14861	Procurement of new heat exchanger for HP oil	CM	TO-HX-002B	TURBINE HIGH PRESSURE CONTROL OIL COOLER B	Closed
8	14833	Grapple on east crane showed a "low oil level" alarm when we took it out to use it last night. Parked it again. please check it out (RB:GOWLEY)	CM	RF-GRP-1	REFUSE CRANE HYDRAULIC GRAPPLE 1	Closed
9	14840	Boiler 2 feedchute camera damaged and failed. Hit by grapple and sheared off. (Feb 16) (RB:JPURCELL)	CM	TV-CAM-PROC	PROCESS CAMERAS	Closed
10	14819	#1 feed chute low level alarm is on. Need probes checked to see why can't reset alarm on level. (RB:FTROTTIE)	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Closed
11	14819	Purchase and install new level transmitters	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Closed
12	14821	Boiler 1 APC wetting mixer 102 nozzle 1 blown fuse. No water flow to nozzle. Fuse replaced and system OK. (Feb 8) (RB:JPURCELL)	CM	WW-WC-101	RECIRC FLYASH MIXER 1 WATER CABINET UNIT 1	Closed
13	14810	Boiler 1 main steam isolation valve packing leaks at stem (MS-V-1003) (Jan 4/2021) (RB:JPURCELL)	CM	MS-PIP-COM	MAIN STEAM HEADER PIPING, VALVES AND ATTACHMENTS	Closed
14	14815	Spares for refuse crane and grapple maintenance.	CM	RF-RC-001B	REFUSE CRANE WEST	Closed
15	14824	Boiler 1 APC heat trace ground fault bottom of quench and emergency discharge screw. (RB:JPURCELL)	CM	AH-SH-101	EVAPORATIVE COOLER FLYASH CRUSHER UNIT 1	Closed
16	14825	Residue loader bucket requires weld repair in multiple locations. Cracks along leading edge of side plates 6" up from floor; Top of bucket structure along side plates (Feb 1/21) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Closed
17	14822	Boiler 2 steam flow trend on DCS not populating correctly. (Feb 8) (RB:JPURCELL)	CM	DCS-CAB	DCS PCU CABINETS	Closed
18	14823	North most hanger bearing needs replacing , bottom half worn out, bolts loose and screw is rubbing on trough (RB:KCOATHAM)	CM	AH-CV-201	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Closed
19	14893	boiler 2 economizer sootblower 120 stuck open and may require further inspection (el 18). (Feb 16) (RB:JPURCELL)	CM	SB-ROT-120	ECONOMIZER ROTARY SOOTBLOWER 20 UNIT 1	Closed
20	14892	(Residue building) FA bay 1 divider wall metal end piece was damaged by the loader and partially ripped off. (Feb 16) (RB:JPURCELL)	CM	BLD-RES	RESIDUE BUILDING	Closed
21	14894	Please check conveyor 201 making a rubbing noise. (RB:FTROTTIE)	CM	APCAH-CV-201	INLET CHAMBER FLYASH SCREW CONVEYOR S1.1 UNIT 2	Closed
22	14890	chute immediately downstream of the magnet is developing a hole. Please check it out. (RB:GOWLEY)	CM	AH-CV-014	FERROUS DRUM MAGNET	Closed
23	14891	Inlet O2 reading high. (RB:GOWLEY)	CM	2-AE-4737	STACK OXYGEN ANALYZER UNIT 2	Closed
24	14897	compartment 105 solenoid 4 E150-04C and solenoid #10 E150-10C have failed and require diaphragms (RB:KCOATHAM)	CM	FG-BG-100	BAGHOUSE UNIT 1	Closed
25	14898	Bearing needs greasing again, squealing a little. (RB:LMCDONEL)	CM	AH-CV-201	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Closed
26	14895	Boiler 1 sootblower 106 (el 23) leaks condensate/steam significantly on forward and return movement (Feb 15) (RB:JPURCELL)	CM	SB-RET-106	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 1	Closed
27	14896	Drain is dripping. May have frozen up the last few nights. Please check out. (RB:GOWLEY)	CM	PW-SS-0007	LIME SILO TRUCK UNLOADING AREA SAFETY SHOWER/EYEWASH STATION	Closed

February 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
28	14879	Swing gate b/t #1 and #2 ash dischargers not closing properly. Please repair. (RB:DPICKETT)	CM	SAF-GEN	SAFETY GENERAL EQUIPMENT	Closed
29	14880	Boiler 1 run 1 zone 2 UFA pressure transmitter (1-PIR-3937) reading low pressure. Instrument may need to be cleaned. (Feb 16) (RB:JPURCELL)	CM	CA-DUCT-2	COMBUSTION AIR DUCTWORK AND ATTACHMENTS UNIT 2	Closed
30	14870	OUT OF CONTROL (RB:FTROTTIE)	CM	2-AE-4734	STACK SULFUR DIOXIDE ANALYZER UNIT 2	Closed
31	14874	Boiler 2 APC wetting mixer 201 nozzle 3 solenoid sticking at times and passing. Isolating in field as required. May need replacement (Feb 20) (RB:JPURCELL)	CM	FG-DSM-201	RECIRC FLYASH MIXER 1 UNIT 2	Closed
32	14887	Please replace broken air valve handle on 2-tsl-4838 on bag house inlet air valve (RB:FTROTTIE)	CM	FG-BG-204	BAGHOUSE COMPARTMENT 3 UNIT 2	Closed
33	14888	Please have oil tested . On turbine main lube tank (RB:FTROTTIE)	CM	TGS-LO-SK100	TURBINE LUBE OIL SKID	Closed
34	14884	replace broken engine compartment cover latches securing covers on both sides are broken (RB:KCOATHAM)	CM	MOB-MNLT-1	MANLIFT 80 FT	Closed
35	14885	South duplex strainer behind lime silo .The strainer to the north has a broken stud that needs removed and new stud installed. (RB:FTROTTIE)	CM	WW-ST-3-A/B	RESIDUE BUILDING SERVICE WATER DUPLEX STRAINER	Closed
36	14873	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 2	Closed
37	14872	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4734	STACK SULFUR DIOXIDE ANALYZER UNIT 2	Closed
38	14875	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4733	INLET SULFUR DIOXIDE ANALYZER UNIT 2	Closed
39	14829	Q1 GHG sample (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Closed
40	14871	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 2	Closed
41	14886	U2: Exchange AMESA trap and pieces. Place in spacer trap. (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Closed
42	14878	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 2	Closed
43	14889	Please check out on Monday morning O2 is at21% when CEMS goes into calibration it goes to 8.1% then 5 mins later its back to21%. (RB:FTROTTIE)	CMENV	2-AE-4701	ECONOMIZER OUTLET O2 ANALYZER UNIT 2	Closed
44	14876	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4790	INLET OXYGEN ANALYZER UNIT 2	Closed
45	14877	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4730	INLET CARBON MONOXIDE ANALYZER UNIT 2	Closed
46	14837	Light missing protective cover by boiler #2 undergrate west side	CMSAF	347-LP101A1	347 V LIGHTING PANEL LP101-A1 BOILER BLDG	Closed
47	14805	JHSC Agenda Item (Month 06) - Improve Lighting in the Residue Building Bottom Ash Side – Brock Murphy to identify (mark out) areas of concern. (RB:DPICKETT)	CMSAF	AH-CV-009	INCLINED BELT CONVEYOR	Closed
48	14899	Month 02 Facility Safety Inspection Finding - #2 Ash Discharger -Thermal Hazard - Missing bolt in transition piece - falling embers. Please replace bolt. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Closed

March 2021 Consolidated Preventative Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	15004	Repair BA incline belt head pulley scraper assembly. Lots of carryover on the belt.	CM	AH-CV-009	INCLINED BELT CONVEYOR	Complete
2	14965	Procurement of Carbon feeder educators -03 nos	CM	CF-EJ-101	ACTIVATED CARBON EJECTOR UNIT 1	Complete
3	14995	Sootblower 114 Boiler #1 breaker box mount broken and in danger of falling off	CM	SB-ROT-114	ECONOMIZER ROTARY SOOTBLOWER 14 UNIT 1	Complete
4	15011	Purchase repair parts	CM	AH-MIX-001B	FLYASH PUGMILL B	Work Finished
5	15011	Repair broken shaft on Pugmill B (failure Mar 30, 2021)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
6	15006	We needed to start this burner during our shift. When the operator touched the HMI screen to reset it, the screen when dark and started rebooting itself. It came back after a few minutes and lit off normally. Please check this out. (RB:GCOWLEY)	CM	AB-BR-201	AUXILIARY BURNER UNIT 2	Complete
7	15009	repair or replace stairs and hand hold for access to residue loader. safety concern by operators to access cab no three point contact and stairs bent (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
8	15007	back up warning alarm horn does not work, back up camera does not work, horn does not work please repair. Bobcat removed from service until repaired Key is in Shift Supervisors office (RB:KCOATHAM)	CMSAF	MOB-SKDSR-1	SKID STEER	Complete
9	14989	Replacement of CA fan unit 1 bearings as per vibration report and complete alignment.	CMOUT	CA-FN-101	COMBUSTION AIR FAN UNIT 1	Complete
10	14990	Alignment Checks for plant critical rotating equipment's	CMOUT	FW-PU-001A	ELECTRIC BFW PUMP A	Complete

April 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	15128	Facility security cameras program not loading through windows and or server. Monitors only showing windows desktop. April 6/2021 (RB:JPURCELL)	CM	TV-CAM-SEC	SECURITY CAMERAS	Complete
2	15129	tipping hall loader (in residue) has alarm "DPF ash load high" alarm active. April 6/2021 (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
3	15127	Fire pump B (south) has small leak on fitting that supplies cooling water to the intercooler. April 6/2021 (RB:JPURCELL)	CM	FP-PU-001BE	FIRE WATER DIESEL PUMP B ENGINE	Complete
4	15131	Switch to initiate suction not fully functioning will need to be fixed. (RB:LMCDONEL)	CM	AH-FN-007	POZZOLAN STORAGE SILO DUST COLLECTION FAN	Complete
5	15130	Vibrator on surge bin A coming on sporadically and staying on for long period of time (RB:BMURPHY2)	CM	AH-VIB-003A	FLYASH SURGE BIN A HOPPER VIBRATOR	Complete
6	15119	Roof fan dampers not fully functioning on SW (Closed) NW (Closed) Middle S (Not fully open) SE (Not fully open) (RB:LMCDONEL)	CM	HV-FN-001	BOILER BUILDING REVERSIBLE POWER ROOF VENTILATOR 1	Complete
7	15117	boiler building man door 148 by feedwater pumps is stuck and causes frequent issues (April 12/2021 (RB:JPURCELL)	CM	BLD-BLR	BOILER BUILDING	Complete
8	15126	Abnormal noise coming from boiler 1 Auxiliary burner cooling fan. EL 15 (RB:BMURPHY2)	CM	AB-FN-102	AUXILIARY BURNER WINDBOX COOLING AIR FAN UNIT 1	Complete
9	15120	Crane has a fault that we can't reset. Can't put it into service (RB:GCOWLEY)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
10	15138	coming into the DCS non stop (RB:BMUIR)	CM	2-FSH-3817	BOILER ENCLOSURE UNIT 2 WEST SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete
11	15141	We tested the water cannons. when we turned the water on, zone 51 "turbine building sprinkler flow" came in. We could not clear it even after the test was done. Please check this out. (RB:GCOWLEY)	CM	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete
12	15137	Pugmill B lid inspection cover missing. Needs replacement (Mar 29/21) (RB:JPURCELL)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
13	15145	LO-LO stayed in after pump testing wednesday. All pressures are normal but we can not clear alarm/banner on TG screen. (RB:LMCDONEL)	CM	TGS-LO-SK100	TURBINE LUBE OIL SKID	Complete
14	15142	programing issue with fill cycle stopping short please investigate internal parameters as suggested by manufacturing company for loss in weight. (RB:KCOATHAM)	CM	CF-TK-201	ACTIVATED CARBON LOSS IN WEIGHT FEEDER UNIT 2	Complete
15	15132	Recirc valve only operates 1/4 of its range and the handle is weak. Will need to be replaced when time permits. (RB:LMCDONEL)	CM	WW-TK-002	WASTE WATER SETTLING BASIN	Complete
16	15136	Boiler 2 A2 super heater platco intermittent open/close issue. Movement of wire/solenoid required to clear. (Mar 29) (RB:JPURCELL)	CM	2-HV-7803	SUPERHEATER HOPPER A2 DUMP VALVE UNIT 2	Complete
17	15135	Boiler 2 superheater safety valve vent piping has small hole. Pic attached on email thread (March 29/2021) (RB:JPURCELL)	CM	2-PSV-5201	SUPERHEATER OUTLET STEAM PRESSURE SAFETY VALVE UNIT 2	Complete
18	15101	RL 124 suction line is leaking and needs replacement (RB:GCOWLEY)	CM	CHEM-PIP-COM	CHEMICAL INJECTION PIPING VALVES AND ATTACHMENTS	Complete
19	15102	Lucus pearson had to replace 4 paddles on pugmill B. He had to take them from pugimill A. We have no spares. Please get some more paddles for us. (RB:GCOWLEY)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete

April 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
20	15100	Cutting edge on loader needs tighten up. bolts lose. (RB:FTROTTIE)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
21	15107	We tried running this and got an alarm for "motor overload". When we tried running other retractables we got the same alarm after. (RB:GCOWLEY)	CM	SB-RET-201	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 2	Complete
22	15106	Boiler 2 plattco above AH-CV-202 conveyor not functioning in auto. (April 16) (RB:JPURCELL)	CM	2-HV-7802	SUPERHEATER HOPPER A1 DUMP VALVE UNIT 2	Complete
23	15090	Repair speed switch bad signal	CM	AH-CV-003A	RESIDUE BUILDING FLYASH SCREW CONVEYOR 3A	Complete
24	15089	oil leaking out of the electrical junction box on the side of #1 filter by pass pump motor. (RB:GCOWLEY)	CM	RF-SKD-101	STOKER HYDRAULIC SKID UNIT 1	Complete
25	15098	Please check fan, motor is not turning ECA requires system to be operating at all times. (RB:KCOATHAM)	CM	AH-FN-002	GRIZZLY BUILDING DUST COLLECTOR FAN	Complete
26	15095	Appears to have an alignment issue. Has joggled for an hour but is still tripping. May need adjustment. (RB:LMCDONEL)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
27	15113	Pugmill B water nozzles solenoids not opening when pugmill is running (RB:BMURPHY2)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
28	15114	main steam turbine MCC main power voltage alarm rang in around 17:09 on April 12/2021. Cause unknown. (RB:JPURCELL)	CM	TG-GV-100	STEAM TURBINE	Complete
29	15112	Heat trace panel alarm Contactor fault on AH-CV-001A conveyor please repair (RB:KCOATHAM)	CM	AH-CV-001A	MAIN FLYASH TRANSPORT SCREW CONVEYOR 1A	Complete
30	15116	grizzly building man door on south side is damaged. Handle is non usable. (April 12) (RB:JPURCELL)	CM	BLD-GRIZ	GRIZZLY BUILDING	Complete
31	15115	Month 04 JHSC Walkdown Finding - Grizzly Building - Handle broken on man door. Please repair/replace. (RB:DPICKETT)	CM	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
32	15109	Fly ash conveyor AH-CV-104 motion detector issue. Required adjustments/troubleshooting. (April 15) (RB:JPURCELL)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
33	15108	fitting leak on fire pump B spraying water to the floor see picture (RB:KCOATHAM)	CM	FP-PU-001B	FIRE WATER DIESEL PUMP B	Complete
34	15111	Zone 2 run 2 on Boiler #1 has the close command coming in constant. Damper currently positioned and leads removed to keep generally proper air flow in area. (RB:LMCDONEL)	CM	1-PCV-4203	COMBUSTION AIR FAN INLET DAMPER UNIT 1	Complete
35	15176	We are losing the connection and have to log onto the 2 computer for the transformers at the end of the control room desk (RB:FTROTTIE)	CM	BLD-CM	CONTROL ROOM	Complete
36	15177	C-LV-0193 is showing closed on the DCS Panel but valve is open in the field . (RB:FTROTTIE)	CM	C-LV-0193	LOW PRESSURE EXTRACTION HEADER DRIP LEG AUTOMATIC DRAIN VALVE	Complete
37	15175	one of the doors for the water cabinet for the mixer is falling off. needs a new hinge (RB:GCOWLEY)	CM	FG-DSM-202	RECIRC FLYASH MIXER 2 UNIT 2	Complete
38	15178	*2-AIT-4791* Boiler 2 APC dust monitor transmitter seems to be erratic trending back to 3/29/21 at 1345. CEMS opacity reading 0. Each baghouse outlet damper isolated individually for 4-5 minutes to rule out a blown bag. (RB:BMURPHY2)	CM	2-AIT-4711	OPACITY MONITOR UNIT 2	Complete

April 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
39	15170	Sootblower 103 won't run in sequence. Manually will extend when holding button down, as soon as it is released retracts back (RB:BMURPHY2)	CM	SB-RET-103	EVAPORATOR RETRACTABLE SOOTBLOWER 3 UNIT 1	Complete
40	15171	compartment 105 solenoid #1 failed to pulse, please investigate and repair E152-01C (RB:KCOATHAM)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
41	15169	4" diameter hole in the ferrous magnet diverter plate *picture attached (RB:BMURPHY2)	CM	AH-CV-014	FERROUS DRUM MAGNET	Complete
42	15173	Wet mixer nozzle #4 solenoid no power .unit is calling for all 4 nozzle but #4 is not lite up (RB:FTROTTIE)	CM	FG-DSM-101	RECIRC FLYASH MIXER 1 UNIT 1	Complete
43	15172	Boiler 1 martin zone 4 UFA damper manually positioned. UFA pressure reading 0mBAR in zone 4 (March 22) (RB:JPURCELL)	CM	CA-DUCT-1	COMBUSTION AIR DUCTWORK AND ATTACHMENTS UNIT 1	Complete
44	15215	Boiler 1 CA fan inboard hi and hi hi vibration alarms coming in frequently for a couple seconds at a time (RB:BMURPHY2)	CM	CA-FN-101	COMBUSTION AIR FAN UNIT 1	Complete
45	15216	Residue loader (on tipping floor) had a issue where it would not move in forward or reverse. Took 3 re-starts to get it to work. (April 20) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
46	15204	****Genie Boom*** The platform lift wouldn't raise (RB:BMURPHY2)	CM	MOB-FKLT-1	FORKLIFT TOYOTA	Complete
47	15217	Replace Failed 8" Rupture Disk on TG bypass Line - April 26, 2021	CM	MS-PIP-COM	MAIN STEAM HEADER PIPING, VALVES AND ATTACHMENTS	Complete
48	15201	Replace the broken Reactor Spring on Vibratory Conveyor 7	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Complete
49	15153	compartment 102 #7 solenoid failed diaphragm please replace (RB:KCOATHAM)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
50	15154	#2 MICC not showing a good image. Image quality fluctuating from 1-100%. Also noticed some metallic gasket material coming off the top (inside) of the camera port.Part of it was hanging down in front of the camera.This may need new gaskets. (RB:GCOWLEY)	CM	TV-CAM-PROC	PROCESS CAMERAS	Complete
51	15150	Diaphragm needs replacing on solenoid #7 compartment 203, tagged with caution tag- E248-07C (RB:KCOATHAM)	CM	FG-BG-203	BAGHOUSE COMPARTMENT 2 UNIT 2	Complete
52	15156	compartment 203 solenoid 10 diaphragm failed tagged with yellow caution tag please repair (RB:KCOATHAM)	CM	FG-BG-200	BAGHOUSE UNIT 2	Complete
53	15155	compartment 102 solenoid 4 has failed please repair. Tagged with yellow caution tag (RB:KCOATHAM)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
54	15147	repair programing to eliminate nuisance alarms , install new UPS backup batteries (RB:KCOATHAM)	CM	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete
55	15149	Diaphragm needs replacing cell 207 solenoid #8 tagged with yellow caution tag E256-08C (RB:KCOATHAM)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
56	15148	Air relief screen on head is broken requires replacing on head, please test operation of diaphragm once replaced solenoid 1 compartment 207 E256-01C (RB:KCOATHAM)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
57	15165	Please heat trace tipping floor back room drip leg. This drip leg freeze up a lot in the winter. (RB:FTROTTIE)	CM	FPS-PIT	FIRE PROTECTION SYSTEM REFUSE PIT	Complete
58	15166	EGR Diff. pressure sensor out of calibration. Getting Error code. (RB:FTROTTIE)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
59	15164	weld handles onto wetting mixer lids to avoid pinch points (RB:KCOATHAM)	CM	FG-DSM-201	RECIRC FLYASH MIXER 1 UNIT 2	Complete

April 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
60	15167	CCTV camera server failure - fixed remotely by aman and locally by daryll - thank you (RB:BMUIR)	CM	TV-CAM-SEC	SECURITY CAMERAS	Complete
61	15159	Please check pump out we have changed out inlet and outlet ammonia filters and started pump B back up. We found that theirs a 20 psi difference in pump out put. (RB:FTROTTIE)	CM	AQ-PU-001B	AQUEOUS AMMONIA FEED PUMP B	Complete
62	15163	Alarm on panel reads: Z63: ACC TRANSFORMER DELUGE SPRK FLOW - WATERFLOW MONITOR - OPEN CKT TROUBLE (RB:BMUIR)	CM	FPS-TB	FIRE PROTECTION SYSTEM TURBINE BUILDING	Complete
63	15162	lights behind #1 air heater on ground floor are not working (RB:GCOWLEY)	CM	120-BLD-LGT	120 V INDOOR BUILDING AND SITE LIGHTING, TRANSFORMERS, PANELS AND CIRCUITS	Complete
64	15124	CO-LOW-IN 4x out (RB:LMCDONEL)	CMENV	2-IN-PRB	INLET CEMS SAMPLE PROBE UNIT 2	Complete
65	15123	SO2-IN 4x out (RB:LMCDONEL)	CMENV	2-IN-PRB	INLET CEMS SAMPLE PROBE UNIT 2	Complete
66	15125	AMESA gas meter not reading correctly (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
67	15121	AMESA trap and pieces exchange U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
68	15122	AMESA trap and pieces exchange for U1 (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
69	15161	U1: AMESA trap and piece insertion, removal of spacer trap and pieces. Using piece A (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
70	15160	Unit 2 exchange spacer trap and pieces with XAD trap and pieces (B). Please do not complete until March 18 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
71	15174	At 05:30 NH3-out is out of control .Needs E&I to look at this on Monday Morning. (RB:FTROTTIE)	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
72	15151	On Feb 3, 2021 change UNIT 2 AMESA trap and pieces (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
73	15152	On Feb 3, 2021 exchange on UNIT 1 AMESA traps and pieces (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
74	15139	Month 03 Facility Walk-Down Inspection Finding - Inspection cover hinges on pugmill B has come detached. Please repair. (RB:DPICKETT)	CMSAF	AH-MIX-001B	FLYASH PUGMILL B	Complete
75	15158	Month 02 Facility Safety Inspection Finding - EL.18 - Housekeeping - Ammonia detection alarm cannot reset. Please fix. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
76	15140	Month 03 Facility Walk-Down Inspection Finding - CEMS Enclosure - Housekeeping – light blown inside west entrance. Please replace bulb (RB:DPICKETT)	CMSAF	BLD-CEM	CEMS ENCLOSURE	Complete
77	15090	Order replacement electronic amplifier boards	CM	AH-CV-003A	RESIDUE BUILDING FLYASH SCREW CONVEYOR 3A	Work Finished
78	15198	#1 Unit CA fan Bearing replacement due to high Vibration	CM	CA-FN-101	COMBUSTION AIR FAN UNIT 1	Work Finished
79	15200	2021 SWO B2 2nd/3rd pass scaffolding rental.	CM	RF-BO-201	BOILER UNIT 2	Work Finished
80	15200	2021 SWO B1 2nd/3rd pass scaffolding rental	CM	RF-BO-101	BOILER UNIT 1	Work Finished
81	15110	the following emergency lights were found not to work as per monthly inspection. 109 ,141, 250, 277, 289, 305, 306, 307, 315, 316, 317, 318, 319, 320, 321, 323, 324, 325, 326. Lights do not come on when test button pushed. (RB:GCOWLEY)	CM	120-EM	EMERGENCY LIGHTS	Work in Progress
82	15146	Door by carbon shack from boiler house .Door latch not working .Door #167 (RB:FTROTTIE)	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Work in Progress

April 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
83	15157	See word doc. with all emergency lights that need repairs. (RB:FTROTTIE)	CM	LPG-LIG	FACILITY LIGHTNING PROTECTION	Work in Progress

Consolidated Corrective Maintenance May 2021

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	15352	Boiler 2 platcco cyclinder above conveyor AH-CV-202 is not properly secured. Lower mounting bolt not connected (May 11) (RB:JPURCELL)	CM	2-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 2	Complete
2	15353	Residue loader on tip floor.- when pushing trash forward the loader pops into neutral and the only way to get it moving is to shift to reverse then forward again. happens when pushing trash and also when there is little load on the bucket (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
3	15351	Tiping Hall loader -presently in residue building. engine compartment light out please replace (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
4	15355	Sootblower control box bracket broken. Upper sootblower boiler #2 trailing edge sh1.1 (114). Similar issue to the one repaired on boiler #1 (RB:JPOMFRED)	CM	SB-ROT-207	SUPERHEATER 1.1 ROTARY SOOTBLOWER 7 UNIT 2	Complete
5	15356	Can't prim pump. looks like foot valve not working. Tried the other suction line, no better. (RB:GCOWLEY)	CM	WW-ST-0004A	WASTE WATER SETTLING BASIN SUMP PUMP A SUCTION STRAINER	Complete
6	15354	Boiler 2 Quench chamber outlet temp "Channel Failure" on thermocouple bringing the average temp high (RB:BMURPHY2)	CM	2-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 2	Complete
7	15346	After being open for 45 min + permissive was not met for sootblowing. Steam side of traps showing very similar temperature on both units. (RB:LMCDONEL)	CM	SB-TCV-201	SOOTBLOWER HEADER THERMAL DRAIN VALVE UNIT 2	Complete
8	15347	West crane grapple showed an alarm that said "oil level". We parked the crane and checked the level which looks okay. Please check out. (RB:GCOWLEY)	CM	RF-GRP-2	REFUSE CRANE HYDRAULIC GRAPPLE 2	Complete
9	15344	TG bypass rupture disc failure - maintenance call in required to replace (April 26) (RB:JPURCELL)	CM	MS-PIP-COM	MAIN STEAM HEADER PIPING, VALVES AND ATTACHMENTS	Complete
10	15349	Turbine attached lube oil pump return line u bolt needs replaced and tightened. Piping is wearing (RB:JPOMFRED)	CM	TG-PIP-LO	TURBINE LUBE OIL PIPING, VALVES AND ATTACHMENTS T/G A	Complete
11	15350	transmitter lost its output - causing a faulting reading in baghouse DP (RB:BMUIR)	CM	2-PIT-4846-3	ID FAN SUCTION FLUE GAS PRESSURE TRANSMITTER 3 UNIT 2	Complete
12	15348	LP hogger air inlet valve instrument air regulator/filter combo drain is broken and leaking air. (RB:JPOMFRED)	CM	CD-HAE-1	HOGGING EJECTOR 1	Complete
13	15365	main gate at scale house is not working through key pad call box. Power has been switched off at the gate and left open. When call button is pressed a busy signal is received (May 3) (RB:JPURCELL)	CM	SEC-GT-FRT	FRONT GATE	Complete
14	15366	Residue loader (on tipping floor) won't start. Seems like possible dead battery. The rear lights stay on unless the main power is shut off. (May 3) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
15	15364	Boiler 2 riddling run 1 bottom door by discharger has stripped out bolt. Using ratchet strap to keep closed (May 3) (RB:JPURCELL)	CM	RF-GR-201	STOKER UNIT 2	Complete
16	15368	baghouse compartment 105 - #4 pulse diaphragm air leak (identified in field with red tag) (May 2/2021) (RB:JPURCELL)	CM	FG-BG-105	BAGHOUSE COMPARTMENT 4 UNIT 1	Complete
17	15369	air leak on outlet damper cylinder seal leaking please replace (RB:KCOATHAM)	CM	FG-BG-107	BAGHOUSE COMPARTMENT 6 UNIT 1	Complete
18	15367	broken stud to hold top hatch down on compartment 107 north west corne rplease weld new stud on (RB:KCOATHAM)	CM	FG-BG-107	BAGHOUSE COMPARTMENT 6 UNIT 1	Complete
19	15358	Boiler 2 2nd pass hopper platcco intermittent issue regarding open/close. Plattcco is slow to close and periodically won't close. (RB:JPURCELL)	CM	2-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 2	Complete

Consolidated Corrective Maintenance May 2021

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
20	15359	Advisory notice on compressor B "Change oil filter" notification please change (RB:KCOATHAM)	CM	SA-AC-001B	SERVICE AIR COMPRESSOR B	Complete
21	15357	Waste water settling basin pump recirc line not flowing. Seems like valve or line is plugged. Could not get it to free up. Using a hose down stream as a recirc line (May 5) (RB:JPURCELL)	CM	WW-TK-002	WASTE WATER SETTLING BASIN	Complete
22	15362	Fire panel zone 5 chronic trouble alarm received by central monitoring (sage). Alarm seems to clear on their end after 1 second but frequently comes back. (May 4) (RB:JPURCELL)	CM	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete
23	15360	Advisory notice on compressor A "Change oil filter" notification please change (RB:KCOATHAM)	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Complete
24	15325	Please replace boiler 2 west side sight glass during the shutdown for SH4 tube repair. Glass is scaled over and you cannot see the level (RB:KCOATHAM)	CM	2-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 2	Complete
25	15326	Procurement for Spare Soot Blower Motor	CM	SB-RET-101	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 1	Complete
26	15324	APC-AH-CV-107 Auto start/ auto stop comes in and out (RB:BMURPHY2)	CM	APCAH-CV-107	EVAPORATIVE COOLER FLYASH SCREW CONVEYOR S1.7 UNIT 1	Complete
27	15328	Procurement of Auxiliary Burner Fan motor Explosion Proof.	CM	AB-BR-101	AUXILIARY BURNER UNIT 1	Complete
28	15330	4 Tipping Hall lights are out please replace (RB:KCOATHAM)	CM	BLD-TIP	TIPPING FLOOR	Complete
29	15327	Procurement for Spare Ammonia Blower Motor	CM	AQ-BL-001AM	AQUEOUS AMMONIA INJECTION PURGE AIR BLOWER A MOTOR	Complete
30	15317	FW-0005A balancing line to De-aerator. Repair steam leak on the seam of the elbow - EL 18 (RB:BMURPHY2)	CM	FW-PIP-COM	FEEDWATER PIPING, VALVES AND ATTACHMENTS	Complete
31	15318	Insulation and Cladding supply and install for new boiler blasting ports	CM	RF-BO-201	BOILER UNIT 2	Complete
32	15300	EMERGENCY TUBE LEAK REPAIR FOR SH4 UNIT #2	CM	RF-SH-204	SUPERHEATER 4 UNIT 2	Complete
33	15323	Fly ash surge bin B rotary valve local electrical disconnect switch damaged/broken. Switch feels like connecting rod is not attached and is not switching off power when turned. (May 12) (RB:JPURCELL)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
34	15318	Insulation and Cladding supply and install for new boiler blasting ports	CM	RF-BO-101	BOILER UNIT 1	Complete
35	15338	Replace air flow switch (RB:GOWLEY)	CM	AB-BR-101	AUXILIARY BURNER UNIT 1	Complete
36	15339	Please replace faulty combustion fan inboard bearing vibration switch (RB:KCOATHAM)	CM	1-VSH-4203-2	COMBUSTION AIR FAN INBOARD BEARING VIBRATION SWITCH HI UNIT 1	Complete
37	15337	AH-CV-107 (crusher conveyor) tripping throughout last couple shifts - getting a zero speed alarm - will jog without issue (RB:BMUIR)	CM	AH-SH-101	EVAPORATIVE COOLER FLYASH CRUSHER UNIT 1	Complete
38	15341	Residue building west side man door- Held on by bottom hinge (RB:BMURPHY2)	CM	BLD-RES	RESIDUE BUILDING	Complete
39	15343	pugmill B water nozzle solenoids not coming on when pugmill starts (RB:BMURPHY2)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
40	15340	Drain not discharging into basin (RB:LKWAN)	CM	BLD-FIRE	FIRE WATER PUMP HOUSE	Complete
41	15332	Residue loader presently being used in the tipping hall, Cab door hard to close and keep closed misaligned to frame possible (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
42	15333	Loader in residue (tipping hall loader) has one rear light out (April 20/2021) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete

Consolidated Corrective Maintenance May 2021

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
43	15331	Residue loader that is presently being used in the Tipping Hall has no interior cab lights working please repair (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
44	15335	Boiler 1 west side eye-hye top spark plug leaking at tip (RB:BMURPHY2)	CM	1-LE-5005	STEAM DRUM EYE-HYE LEVEL PROBE UNIT 1	Complete
45	15334	loader in residue building (tipping hall loader) has cabin intake manifold not fully secured. (April 20) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
46	15406	*** Boiler 2 zone 4 UFA damper. 2-ZI-3939-2. loss position (RB:BMURPHY2)	CM	2-PY-4203	COMBUSTION AIR FAN INLET AIR DAMPER POSITIONER UNIT 2	Complete
47	15405	Failure to start. "speed low" in. went up to verify no movement. Saw that belt off/ broken (RB:BMURPHY2)	CM	AH-CV-002B	MAIN FLYASH TRANSPORT SCREW CONVEYOR 2B	Complete
48	15410	ECS cabinet electrical disconnect switch damaged and not usable for LOTO. (May 25) (RB:JPURCELL)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
49	15411	Boiler 2 retractable sootblower 205 failed to run and did not move. (may 24) (RB:JPURCELL)	CM	SB-RET-205	SUPERHEATER 3 RETRACTABLE SOOTBLOWER 5 UNIT 2	Complete
50	15400	Boiler building roof fan HV-FN-005 (centre) powered louvres are closed with fan running. (May 16) (RB:JPURCELL)	CM	HV-FN-005	BOILER BUILDING REVERSIBLE POWER ROOF VENTILATOR 5	Complete
51	15401	Boiler building roof fan HV-FN-003 (south west) fan is off and doesn't run. (previous issues) (May 16) (RB:JPURCELL)	CM	HV-FN-003	BOILER BUILDING REVERSIBLE POWER ROOF VENTILATOR 3	Complete
52	15399	Boiler 1 sootblower thermal drain valve taking a long time to warm up to meet permissive. (May 16) (RB:JPURCELL)	CM	SB-TCV-101	SOOTBLOWER HEADER THERMAL DRAIN VALVE UNIT 1	Complete
53	15403	solenoid #6 diaphragm needs replacing, not pulsing (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
54	15404	solenoid 3 diaphragm needs replacing, not pulsing air E146-03C (RB:KCOATHAM)	CM	FG-BG-102	BAGHOUSE COMPARTMENT 1 UNIT 1	Complete
55	15402	Boiler building roof ran HV-FN-001 (north west) fan operates but powered louvres are closed (May 16) (RB:JPURCELL)	CM	HV-FN-001	BOILER BUILDING REVERSIBLE POWER ROOF VENTILATOR 1	Complete
56	15423	APC-AH-CV-106 Emergency discharge screw ground fault heat trace unit 1 (RB:BMURPHY2)	CM	IA-PCV-1002	RECIRC FLYASH HOPPER DISCHARGE 1 FLUIDIZING NOZZLES INSTRUMENT AIR PRESSURE REGULATOR UNIT 1	Complete
57	15429	Boiler 2 auxiliary burner failed to start (May 29) (E and I call in) (RB:JPURCELL)	CM	AB-BR-201	AUXILIARY BURNER UNIT 2	Complete
58	15417	Chain off gears, has been isolated and powered off. (RB:LMCDONEL)	CM	SB-RET-203	EVAPORATOR RETRACTABLE SOOTBLOWER 3 UNIT 2	Complete
59	15431	Procurement of heaters for Sea can	CM	BLD-BLR	BOILER BUILDING	Complete
60	15430	this thing tripped and won't start up (RB:GCOWLEY)	CM	CF-FI-C02	ACTIVATED CARBON SILO ROOM VENT BLOWER FILTER	Complete
61	15413	Boiler 2 superheater hopper A2 plattco not always closing. Might need air muffler replacement. Presently muffler has been loosed off to allow for open and close (May 25) (RB:JPURCELL)	CM	2-HV-7803	SUPERHEATER HOPPER A2 DUMP VALVE UNIT 2	Complete
62	15414	MP dump line to ACC attemperator does not move (TCV-0023). Feed back to DCS indicates movement but does not move in the field. This test was completed with manual condensate and steam valves closed. (RB:JPURCELL)	CM	C-TCV-0023	MEDIUM PRESSURE STEAM TO ACC DESUPERHEATER BFW TEMPERATURE CONTROL VALVE	Complete
63	15412	Loader in residue had 1X issues of bucket/loader controls sticking in place midway on the toggles. (May 25) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
64	15416	West safety shower on ele.18 has the alarm constantly coming it, issue with flow sensor (RB:LMCDONEL)	CM	PW-SS-2010	BOILER BUILDING UNIT 2 WEST SAFETY SHOWER/EYEWASH STATION	Complete

Consolidated Corrective Maintenance May 2021

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
65	15415	Pugmill B water solenoids not working. Valves have been confirmed enabled from PLC and ports have been cleaned out. No water flow; using a hose to supply system (May 25) (RB:JPURCELL)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
66	15376	Boiler 2 baghouse compartment 207 high level probe reading false high and not clearing. Baghouse cleaning shutdown disabled due to high level (May 1) (RB:JPURCELL)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
67	15378	Waste water settling basin pump A seal is leaking (April 28) (RB:JPURCELL)	CM	WW-PU-002A	WASTE WATER SETTLING BASIN SUMP PUMP A	Complete
68	15375	stud broken off to hold lid down for sealing please replace compartment 103 North east corner (RB:KCOATHAM)	CM	FG-BG-103	BAGHOUSE COMPARTMENT 2 UNIT 1	Complete
69	15380	Boiler 2 auxiliary burner flame failure on startup after TG bypass line rupture disc failure. Maintenance call in (April 26) (RB:JPURCELL)	CM	AB-BR-201	AUXILIARY BURNER UNIT 2	Complete
70	15383	Settling Basin Pump A shaft seal leak (RB:BMURPHY2)	CM	WW-PU-002A	WASTE WATER SETTLING BASIN SUMP PUMP A	Complete
71	15379	Boiler 2 MICC camera purge air alarm. Camera unable to be inserted (April 28) (RB:JPURCELL)	CM	CM-FN-IR-2	FURNACE IR CAMERA UNIT 2	Complete
72	15371	air leak on outlet damper cylinder seal leaking please replace (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
73	15372	air leak on outlet damper cylinder seal leaking please replace (RB:KCOATHAM)	CM	FG-BG-103	BAGHOUSE COMPARTMENT 2 UNIT 1	Complete
74	15370	air leak on outlet damper cylinder seal leaking please replace (RB:KCOATHAM)	CM	FG-BG-106	BAGHOUSE COMPARTMENT 5 UNIT 1	Complete
75	15374	stud broken off requires replacement for holding lids down west side center of compartment (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
76	15373	air leak on outlet air cylinder top seal needs replacing (RB:KCOATHAM)	CM	FG-BG-102	BAGHOUSE COMPARTMENT 1 UNIT 1	Complete
77	15394	Solenoid for the stage with three nozzles appears to not be actuating leaving low water flows. (RB:LMCDONEL)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
78	15395	Pugmill B south cover inspection lid requires mechanism to lock in place while lid is upright. Potential for cover to swing open and strike employee in the leg/knee. (May 18) (RB:JPURCELL)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
79	15393	Many bolts securing the railing around the basin have sheared off over time and may need replacing. (RB:LMCDONEL)	CM	WW-TK-002	WASTE WATER SETTLING BASIN	Complete
80	15397	East crane phase failure alarm around 03:25am. Crane parked and west crane put into service. (May 17) (RB:JPURCELL)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
81	15398	Residue building surge bin B rotary valve chain guard mounting supports are damaged. Guard is not properly secured (May 16) (RB:JPURCELL)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
82	15396	Plant instrument air dryer has "service valves and filters" alarm active (May 17) (RB:JPURCELL)	CM	SA-AD-001	INSTRUMENT AIR DRYER	Complete
83	15390	Fabricate SH4 Tube Plugs (CFS Supply)	CM	RF-BO-201	BOILER UNIT 2	Complete
84	15384	U1 camera not properly secured/bracketed (RB:LKWAN)	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Complete
85	15392	Martin Run 2 Zone 4 positioner leaking on boiler #2 (RB:LMCDONEL)	CM	2-PY-4203	COMBUSTION AIR FAN INLET AIR DAMPER POSITIONER UNIT 2	Complete
86	15391	Annual Oil sampling for oil cooled transformer	CM	44-T1	44-13.8 KV STEP UP TRANSFORMER T1	Complete
87	15381	The hinges on many of the compressed gas cages (outside/inside building) are broken or have rust off preventing the doors from closing properly. Would it be possible to weld new hinges. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

Consolidated Corrective Maintenance May 2021

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
88	15336	Grizzly Platform North Side Swing Gate misaligned and does not close fully. Please investigate and repair/replace accordingly. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
89	15418	(RB:DPICKETT)	CMSAF	BLD-PIT	REFUSE PIT	Complete
90	15345	Boiler 1 and 2 feedstop due to TG bypass line rupture disc failure; AMESA trap break required (April 26) (RB:JPURCELL)	CMENV	BLD-CEM	CEMS ENCLOSURE	Complete
91	15329	Greenhouse Gas extraction over 24 hrs (RB:LKWAN)	CMENV	2-STK-LN	STACK CEMS SAMPLE LINES UNIT 2	Complete
92	15363	U1 AMESA exchange (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete

June 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	15540	Fluidizing air inlet regulator leaking on hopper 202. Replace or repair (RB:JPOMFRED)	CM	AH-TK-201	RECIRC FLYASH HOPPER UNIT 2	Complete
2	15539	drain line from suction loose and leaking (RB:LKWAN)	CM	FP-PU-001A	FIRE WATER DIESEL PUMP A	Complete
3	15541	East overhead door on tip floor is not rolling all the way up. (RB:LMCDONEL)	CM	TOOL-GEN	TOOLS GENERAL	Complete
4	15537	General service request regarding month 5 emergency light inspections. Several lights are not working. Refer to month 5 inspections. (May 31) (RB:JPURCELL)	CM	120-EM	EMERGENCY LIGHTS	Complete
5	15536	Residue power washer leaking at gauge- video attached (RB:BMURPHY2)	CM	BLD-RES	RESIDUE BUILDING	Complete
6	15547	AH-CV-009 incline belt carrying over a lot of fines and building up in counterweight cage excessively. Possible belt scraper adjustment required (June 8) (RB:JPURCELL)	CM	AH-CV-009	INCLINED BELT CONVEYOR	Complete
7	15546	AMESA trap and pieces exchange - use PIECE C, RUN 63 (RB:LKWAN)	CM	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
8	15550	CCW fan A drive belt failure. Belt needs replaced (June 8) (RB:JPURCELL)	CM	CC-FN-001A	CLOSED COOLING WATER HEAT EXCHANGER FAN A	Complete
9	15543	Boiler 1 APC wetting mixer 102 - #4 nozzle is leaking by and not properly seating. Isolated in cabinet to prevent over dosing with water (June 7) (RB:JPURCELL)	CM	WW-WC-102	RECIRC FLYASH MIXER 2 WATER CABINET UNIT 1	Complete
10	15542	Boiler 1 zone 4 UFA damper went 100% open causing steam dip. Zone 4 damper has been manually set at 9% in the field. (June 7) (RB:JPURCELL)	CM	1-PCV-4203	COMBUSTION AIR FAN INLET DAMPER UNIT 1	Complete
11	15544	Fire panel trouble - Boiler area southwest EL.0 no answer (June 8) (RB:JPURCELL)	CM	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete
12	15503	Boiler 1 west gauge glass is blinded over and needs replaced (June 1) (RB:JPURCELL)	CM	1-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 1	Complete
13	15502	Boiler 2 west gauge glass is blinded over and needs replaced (June 1) (RB:JPURCELL)	CM	2-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 2	Complete
14	15504	Boiler 1 Feedchute hopper camera "video loss" - Bumped by crane (RB:BMURPHY2)	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Complete
15	15499	Rotary valve continuously runs, even when switched over to "manual" only way to shut off is disconnect. Cannot get any other RV or CV running on train B (RB:BMURPHY2)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
16	15501	Truck entrance gate phone dialer not working to the control room (June 1) (RB:JPURCELL)	CM	SEC-GT-FRT	FRONT GATE	Complete
17	15529	Steam supply trap 1004 has been isolated as the body on it has a leak. Leak appears to be on right side of body (west) near flange. (RB:LMCDONEL)	CM	CA-HX-101	STEAM COIL AIR PREHEATER UNIT 1	Complete
18	15535	Boiler 2 furnace compliance temp degrading and trending down to hours less then 1100degC. E and I call in (May 30) (RB:JPURCELL)	CM	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete

June 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
19	15509	Procurement of spares for Gauge glass.	CM	1-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 1	Complete
20	15575	broken pipe sucking air into clean gas duct. please cap (RB:GCOWLEY)	CM	FG-BG-200	BAGHOUSE UNIT 2	Complete
21	15574	Please replace leaking fitting on discharge side of eductor before the flange joint. suspect hole discharging carbon into the room (RB:KCOATHAM)	CM	CF-EJ-101	ACTIVATED CARBON EJECTOR UNIT 1	Complete
22	15576	damaged lifting cable. please replace (RB:GCOWLEY)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
23	15570	wetting mixer 101/102 nozzle 4 not coming on (June 15) (RB:JPURCELL)	CM	FG-DSM-102	RECIRC FLYASH MIXER 2 UNIT 1	Complete
24	15573	Please replace diaphragm on solenoid 5. not pulsing. (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
25	15588	Procurement of sight glass for burners	CM	AB-BR-201	AUXILIARY BURNER UNIT 2	Complete
26	15579	Kone west refuse crane drive unit cabinet A/C not working resulting in high temperature	CM	600-52-CRN1	600 V CIRCUIT BREAKER 52-CRN1 FOR REFUSE CRANE 1	Complete
27	15577	#1 HCL is reading 2.2 more on DCS than CEMs. This is causing unnecessarily high lime flow to unit 1. (RB:GCOWLEY)	CM	1-AE-4732	STACK HCL ANALYZER UNIT 1	Complete
28	15578	hole in flanged hose barb to flex hose, discharge of ejector nozzle flange. Please replace hose barb on unit 1 (RB:KCOATHAM)	CM	CAR-PIP-1	ACTIVATED CARBON PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
29	15559	Fly ash conveyor AH-CV-002B speed low alarm preventing auto start up. Conveyor will jog and run but faults off on speed low (RB:JPURCELL)	CM	AH-CV-002B	MAIN FLYASH TRANSPORT SCREW CONVEYOR 2B	Complete
30	15554	Inlet valve stuck open. Isolated (RB:LMCDONEL)	CM	SB-ROT-222	ECONOMIZER ROTARY SOOTBLOWER 22 UNIT 2	Complete
31	15562	Loader in residue building requires cutting edge re-torg (June 13) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
32	15552	2 diaphragms Solenoid 7 on 203 and solenoid 1 on 202 replaced. (completed by Randy) (RB:LMCDONEL)	CM	IA-PSV-2009	BAGHOUSE COMPARTMENT 1 PULSE AIR RECEIVER PRESSURE RELIEF VALVE	Complete
33	15551	Boiler 1 APC baghouse compartment 103 temperature probe failure (June 8) (RB:JPURCELL)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
34	15553	North air conditioner tripped off, south one on. Not sure why north one tripping. Please investigate. (RB:GCOWLEY)	CM	BLD-STK-ELE	STACK AREA ELECTRICAL BUILDING	Complete
35	15566	Boiler 2 A2 platcco stuck open (June 14) (RB:JPURCELL)	CM	2-HV-7803	SUPERHEATER HOPPER A2 DUMP VALVE UNIT 2	Complete
36	15565	solenoid 4 compartment 207 suspect pilot diaphragm is failing please investigate and repair (RB:KCOATHAM)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
37	15569	Stack MCC Air conditioner A found tripped off. Reset and seems to be working fine again (RB:BMURPHY2)	CM	BLD-STK-ELE	STACK AREA ELECTRICAL BUILDING	Complete
38	15563	The end plate of AH-CV-010 2 bolts sheared off and the 3rd bolt barely holding on (RB:BMURPHY2)	CM	AH-CV-010	FERROUS DRUM MAGNET VIBRATING FEEDER	Complete

June 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
39	15564	Nozzle 1 solenoid not energized (RB:BMURPHY2)	CM	FG-DSM-102	RECIRC FLYASH MIXER 2 UNIT 1	Complete
40	15533	Month 05 JHSC Walkdown Finding - RO Area - Hoses laying on floor. Suggest installing hose racks. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
41	15505	Grizzly Building - Emergency Exit South Door #GR101 does not open from the inside - handle missing. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
42	15556	Q12021 Snapshot Finding-item #015 - Broken electrical conduit cover top of baghouse & outside maint roll-up door, Junction box door open b/t 201 & 203 conveyers. Exposed wires at 206 baghouse vibrator. Seal test broken on wetting mixer 101 (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
43	15557	Q1 2021 Snapshot Finding - item #0017 - Wetting mixer 202 guard broken and not secured. Please replace or repair (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
44	15589	Loader in residue building has damaged ladder and needs replaced or significant repairs. (June 22/2021) (RB:JPURCELL)	CMSAF	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Work Finished
45	15548	AMESA trap and pieces exchange - USE PIECE F, Run 62 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
46	15549	AMESA trap and piece exchange - use Piece D, Run 63 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
47	15545	AMESA trap and pieces exchange - USE PIECE E, RUN 62 (SOURCE TESTING) (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
48	15561	Boiler 1 CEMS HCL requires next business day calibration 1X (june 13) (RB:JPURCELL)	CMENV	1-AE-4732	STACK HCL ANALYZER UNIT 1	Complete
49	15560	Boiler 2 CEMS NH3 analyzer OOC - requires service next business day (June 12) (RB:JPURCELL)	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete

July 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	15716	Door GR 101 at the grizzly does not have a handle on the inside. Cannot be opened from the inside in case of emergency. (RB:GCOWLEY)	CM	BLD-BLR	BOILER BUILDING	Complete
2	15715	Turbine bypass key suspect to be non functional please investigate and test reliability (RB:KCOATHAM)	CM	TG-GV-100	STEAM TURBINE	Complete
3	15719	install cleanout hinged flap on bottom of #1 discharger hydraulic cylinder guards to allow for the removal of riddlings debris that falls in from above. (RB:KCOATHAM)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
4	15717	Blower keeps tripping and audible buzzing coming from breaker cabinet when running. Also vent should be redirected (RB:LMCDONEL)	CM	LI-BL-C02	HYDRATED LIME SILO ROOM VENT BLOWER	Complete
5	15704	Boiler 2 A2 plattco valve stuck open (RB:BMURPHY2)	CM	2-HV-7803	SUPERHEATER HOPPER A2 DUMP VALVE UNIT 2	Complete
6	15703	west sight glass no good. please replace (RB:GCOWLEY)	CM	RF-BO-201	BOILER UNIT 2	Complete
7	15706	leaking steam/ condensate (RB:BMURPHY2)	CM	SB-RET-202	EVAPORATOR RETRACTABLE SOOTBLOWER 2 UNIT 2	Complete
8	15698	will not stay closed when put in close position. packing leaking also (RB:GCOWLEY)	CM	C-PV-0005	MAIN STEAM TURBINE BYPASS DESUPERHEATER MAIN STEAM AUTOMATIC ISOLATION VALVE	Complete
9	15697	Boiler 2 APC recirc hopper 202 pulse air weak pulsing/sticking (July 6) (RB:JPURCELL)	CM	AH-TK-201	RECIRC FLYASH HOPPER UNIT 2	Complete
10	15701	#1 boiler sootblower 103 packing leaking #2 boiler sootblower 102 packing leaking (RB:GCOWLEY)	CM	VNT-PIP-1	BOILER VENT PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
11	15700	Hanger bearing just south of IGR fan making a lot of noise and appears blocks are shot. Greased to survive but needs to be looked at. (RB:LMCDONEL)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Complete
12	15712	Unit 1 carbon feeder screw making noise (RB:BMURPHY2)	CM	CAR-PIP-1	ACTIVATED CARBON PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
13	15711	received an alarm that said "limit switch monitoring" for west crane. Parked it as per jigar. (RB:GCOWLEY)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
14	15714	East roll up door remote is broken please replace or repair. button stays in. (RB:KCOATHAM)	CM	BLD-TIP	TIPPING FLOOR	Complete
15	15713	Stack MCC north HVAC unit (A) faulted off. Running with B system as found (June 21) (RB:JPURCELL)	CM	BLD-STK-ELE	STACK AREA ELECTRICAL BUILDING	Complete
16	15709	repacking needed by suction pump (constant water leaking) (RB:LKWAN)	CM	FP-PU-001A	FIRE WATER DIESEL PUMP A	Complete
17	15708	shows channel failure (RB:GCOWLEY)	CM	2-TE-5224-1	SUPERHEATER ATTEMPERATOR 1 RIGHT OUTLET STEAM TEMPERATURE ELEMENT UNIT 2	Complete
18	15710	A2 hopper plattco sticks open, loose wire is suspected (RB:KCOATHAM)	CM	2-HV-7803	SUPERHEATER HOPPER A2 DUMP VALVE UNIT 2	Complete
19	15771	Boiler 1 martin watchdog wire break fault. No MICC image (July 12) (RB:JPURCELL)	CM	RF-GR-101	STOKER UNIT 1	Complete

July 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
20	15770	#2 carbon feeder has a hole in the barbed fitting for the hose downstream of where the carbon drops out of the feeder. it is wrapped with duct tape for now (RB:GCOWLEY)	CM	CAR-PIP-2	ACTIVATED CARBON PIPING, VALVES AND ATTACHMENTS UNIT 2	Complete
21	15774	ECS belt tracking sensory alarm. system faulted off and won't stay running. Non ferrous being diverted (July 10/2021) (RB:JPURCELL)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
22	15772	Turbine generator control screen in the control room freezes during islanding mode. Please resolve issue, computer may be failing. (RB:KCOATHAM)	CM	DCS-CAB	DCS PCU CABINETS	Complete
23	15762	Q2 Snapshot Finding - El.29 #1 East Side & #2 east side - Lights blown. Please replace. (RB:DPICKETT)	CM	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
24	15755	belt has a tear in it. (RB:GCOWLEY)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
25	15769	Belt for eddy current tracking beyond limits and tripping. This was cleaned several times and clean when it went out of alignment. May need new belt (RB:GCOWLEY)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
26	15768	Diaphragm on solenoid 6 has failed please replace E-156-06C (RB:KCOATHAM)	CM	FG-BG-107	BAGHOUSE COMPARTMENT 6 UNIT 1	Complete
27	15779	belt has a tear in it. (RB:GCOWLEY)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
28	15778	please change temperature probe (RB:GCOWLEY)	CM	1-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 1	Complete
29	15783	Door needs to be replaced (RB:LMCDONEL)	CM	MOB-SKDSR-1	SKID STEER	Complete
30	15776	Control room DCS screen 2 is logged out and on the windows screen (July 9) (RB:JPURCELL)	CM	BLD-CM	CONTROL ROOM	Complete
31	15775	Damaged heat trace line, light hanging (RB:LKWAN)	CM	BLD-RES	RESIDUE BUILDING	Complete
32	15777	Boiler 1 attemperator TE-5224-1 temperature probe failed (July 9) (RB:JPURCELL)	CM	1-TE-5224-1	SUPERHEATER ATTEMPERATOR 1 RIGHT OUTLET STEAM TEMPERATURE ELEMENT UNIT 1	Complete
33	15739	level transmitter reading inaccurate received a full load of 37000 kg level indicator reading .92 meters equal to 18000 kg please check accuracy (RB:KCOATHAM)	CM	C-LIT-7812	POZZOLAN STORAGE SILO LEVEL INDICATING TRANSMITTER	Complete
34	15738	Pozz silo level display not showing values (RB:BMURPHY2)	CM	AH-SILO-001	POZZOLAN STORAGE SILO	Complete
35	15752	suspect blower motor seized (RB:KCOATHAM)	CM	AH-FN-001	RESIDUE BUILDING DUST COLLECTOR FAN	Complete
36	15751	some of the pulse lances have fallen off please check (RB:KCOATHAM)	CM	AH-BH-001	RESIDUE BUILDING DUST COLLECTOR	Complete
37	15754	Channel loss (RB:LMCDONEL)	CM	1-TT-4763-1	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 1 UNIT 1	Complete
38	15753	analyzer out of control (RB:BMUIR)	CM	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
39	15744	Foot valve found in suction cage (RB:BMURPHY2)	CM	WW-PU-002A	WASTE WATER SETTLING BASIN SUMP PUMP A	Complete
40	15742	East Overhead Door needs new gearbox and drive unit for Ash Residue building	CM	BLD-RES	RESIDUE BUILDING	Complete
41	15750	unable to verify movement of fan outlet damper, presently indicating closed (RB:KCOATHAM)	CM	AH-FN-001	RESIDUE BUILDING DUST COLLECTOR FAN	Complete
42	15695	AMESA TRAP AND PIECES EXCHANGE ON U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete

July 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
43	15696	AMESA TRAP AND PIECES EXCHANGE (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
44	15748	Month 07 - JHSC Walkdown Finding - South access ladder does not close completed. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
45	15749	Month 07 - JHSC Walkdown - Residue Building - Pugmill B Rotary guard not secured adequately. Please re-affix. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
46	15747	Month 07 JHSC Walkdown Finding - Cylinder bottle cart broken weld. Please discard. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
47	15756	Q2 Snapshot Finding - El.26 SB107 & El.18 SB101 condensate lines eroded. Please replace. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
48	15707	Lance broke off from head on #1 SB#121 emitting steam when activated. SB currently isolated. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
49	15743	local panel disconnect for lockout purposes does not function please replace. LOTO required locking out on alternate location in breaker panel. (RB:KCOATHAM)	CMSAF	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
50	15699	Month 06 Facility Walkdown Finding - #2 Ash Discharger - Bolt missing from transition piece causing ambers to fall. Please replace/repair (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
51	15746	Month 07 JHSC Walkdown Finding - Carbon silo feeder discharge line leaking - please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
52	15745	Month 07 JHSC Walkdown Finding - Propane cylinders outside cage, not secured. Please store appropriately. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
53	15765	Q2 Snapshot Finding - El. 29 - boiler fill hose laying on grating. Please install hose hanger. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
54	15766	Q2 Snapshot Finding - Charging Deck - tubes and alignment bars laying/blocking ladder to roof emergency access. Please relocate (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
55	15764	Q2 Snapshot Finding - El.10 #2 Old platcco door laying against I-beam. Please remove and discard. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
56	15773	Install AC condensate pump on El.4 MCC to avoid manually emptying the trap basin. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
57	15767	NM-DurhamYork-21-I-0192 - Lunch room baseboard wall heater fallen off wall. Please re-attach. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
58	15759	Q2 Snapshot Finding - various soot blower mesh guarding missing bolts. Please complete an assessment and affix bolts accordingly. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
59	15763	Q2 Snapshot Finding - El.6 #1 west side - NG flow meter laying on grating. Please store appropriately (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

July 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
60	15761	Q2 Snapshot Finding - El.23.9 #2 west side and El.18 #1 east side - electrical conduit missing covers. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

August 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	15866	Loader presently in the Residue building the seat belt locks while trying to put on the drivers left side. Seat belt cannot be worn properly with the shoulder strap catching instead of extending out (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
2	15867	Loader presently in the Tipping hall has a cover plate with missing bolts allowing a hinged door to swing open freely. (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
3	15872	RO ORP sensor reading consistently high and flooding out RO with sodium bisulphite. Free chlorine test is showing OK. Flooding with bisulphite is taxing on membranes and polisher (RB:JPURCELL)	CM	RO-SKD-1	RO SKID	Complete
4	15871	Boiler 2 superheater A3 plattco is slow to close. Exhaust muffler has been removed but plattco is slow. (Aug 3) (RB:JPURCELL)	CM	2-HV-7804	SUPERHEATER HOPPER A3 DUMP VALVE UNIT 2	Complete
5	15875	Elevator not moving. It is on the ground floor and the doors won't open either. (RB:GCOWLEY)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
6	15868	Conveyor tripping on low speed with no cause found. Please check out speed switch. (RB:GCOWLEY)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Complete
7	15869	Re-lamp several burnt out fixtures above the BA incline conveyor (RB:MNEILD)	CM	AH-CV-009	INCLINED BELT CONVEYOR	Complete
8	15854	please replace faulty poss silo offload switch, (RB:KCOATHAM)	CM	AH-SILO-001	POZZOLAN STORAGE SILO	Complete
9	15853	door on ele 5.6 above crusher has a hole in it needing to be welded, hole is under metal tape (RB:KCOATHAM)	CM	AH-SH-101	EVAPORATIVE COOLER FLYASH CRUSHER UNIT 1	Complete
10	15851	ACC A3 fan (south west) has oil leak from gear box. Oil noticed in area. Not having any DCS alarms or fault offs yet (Aug 3) (RB:JPURCELL)	CM	CD-AC-0013	ACC CELL 3	Complete
11	15928	Repair the chiller for AMESA unit 2 and troubleshoot leak in Kone Cabinet HVAC unit West	CM	2-STK-CHR	STACK CEMS CHILLER UNIT 2	Complete
12	15926	Boiler 1 AH-CV-101 speed low fault coming in intermittently and faulting off conveyor (Aug 10) (RB:JPURCELL)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Complete
13	15927	Repair Steam Leak in SCAH unit 2 condensate return line	CM	CA-HX-201	STEAM COIL AIR PREHEATER UNIT 2	Complete
14	16552	Supply of labour for rodding 2nd pass hopper unit 1 & 2 for OPS.	CM	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
15	16062	Emergency Repair of Actuator and installing temporary packing for C-PV-0005 valve failure .	CM	C-PV-0005	MAIN STEAM TURBINE BYPASS DESUPERHEATER MAIN STEAM AUTOMATIC ISOLATION VALVE	Complete
16	16185	Cabinet is overheating. Exhaust fan on the side of the cabinet is not working. Tripped off several times. We moved the other fan to keep the cabinet cool for now. display shows message auto remote derating. (RB:GCOWLEY)	CM	C-SIC-0830	ACC CELL 1 FAN VARIABLE FREQUENCY DRIVE	Complete
17	15878	getting alarm for low level when the level is not low (RB:GCOWLEY)	CM	1-LSL-4781-2	RECIRC FLYASH HOPPER DISCHARGE 2 LEVEL SWITCH LOW UNIT 1	Complete
18	15881	Unplug B2 2nd Pass Hopper	CM	RF-BO-201	BOILER UNIT 2	Complete
19	15876	northeast smoke detector in control room shows dirty on panel. Tried blowing it out, trouble still showing. (RB:GCOWLEY)	CM	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete

August 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
20	15877	Trouble alarm is in for "control room northeast smoke detector dirty. Tried blowing it out, no luck. (RB:GCOWLEY)	CM	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete
21	15921	3 lights in center of incline conveyor tube out. FM asked for SR when location confirmed. (RB:LMCDONEL)	CM	347-LP101A1	347 V LIGHTING PANEL LP101-A1 BOILER BLDG	Complete
22	15916	Procurement of spare wire rope for Refuse crane	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
23	15873	AMESA exchange. Piece C (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
24	15874	AMESA exchange. Piece D (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
25	15891	Q2 Snapshot Finding - El.23 #1 east side - scaffolding beams laying near walkway. Store in appropriate area away from walkway. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
26	15890	Q2 Snapshot Finding - Charging Deck - excessive accumulation of ash/debris on festoon cables and trays. Please clean off. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
27	15893	Q2 Snapshot Finding - El.18.9 #1 & #2 covers missing from ammonia lances. Please replace. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
28	15892	Q1 Snapshot Finding - Lunchroom. Operations shared fridges in the breakroom need to be cleaned. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
29	15887	Q2 Snapshot Finding - El.18 - various piles of scaffolding grating laying near walkways. Please relocate to one exclusion zone. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
30	15889	Q2 Snapshot Finding - El.8.7 #1 east side - poke poles laying on grating. Suggest relocating the pole hanger to the west side to prevent potential drop of pole if placed improperly.. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
31	15888	Q2 Snapshot Finding - El.12 #2 west side - pile of insulation lying near walkway. Please discard. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
32	15898	Q1 2021 Snapshot Finding - item #006 - Lime buildup up to grating level in lime silo ground floor. Please clean up. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
33	15897	Q1 Snapshot Finding - Fire extinguisher in grizzly near south door obstructed by 2 skids of rims. Relocate rims or relocate extinguisher to left side of man door. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
34	15932	2021 ANNUAL INSPECTION OF PLANT LIFTING AND RIGGING EQUIPMENTS	CMSAF	BLD-BLR	BOILER BUILDING	Complete
35	15899	Q1 2021 Snapshot Finding - item #005 - Ladders, tools, poke poles, air lances (various levels) need to be stored. Knife gates need to be stored appropriately, 201 screw conveyor hopper door needs to be re-affixed. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
36	15895	Q2 Snapshot Finding - El. 12 - air cannon scaffolding platform has accumulation of ash/debris. Please clean off. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
37	15894	Q2 Snapshot Finding - El.10 #1 & #2 2nd pass hoppers has accumulation of ash and debris on back sides. Please clean up. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
38	15896	Q2 Snapshot Finding - El.23.9 - Candle sticks from outage need to be stored in cage on El.8.7 (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

SEPTEMBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	16676	Pugmill B small inspection cover close to 3 bank nozzles is rusted off and needs re-securing. (Aug 23) (RB:JPURCELL)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
2	16680	pozzolan offload limit switch needed to be replaced (Aug 17) (RB:JPURCELL)	CM	C-UA-7848	POZZOLAN TRUCK UNLOADING CONTROL PANEL	Complete
3	16671	Main steam header drip leg (EL 18 by CCW expansion tank) staying open. Manual intervention to assist in closing. Electrical wires exposed (RB:BMURPHY2)	CM	C-LV-0026	MEDIUM PRESSURE DESUPERHEATER MAIN STEAM HEADER DRIP LEG AUTOMATIC DRAIN VALVE	Complete
4	16672	West crane "phase failure" alarm (RB:BMURPHY2)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
5	16684	The following emergency lights do not come on when the test button is pushed: #220, #249, #251, #153, #218, #154, #99, #109, #122, #16 #23, #35, #43. Also, none of the emergency lights on EL. 29 work. (RB:GOWLEY)	CM	120-EM	EMERGENCY LIGHTS	Complete
6	16685	Access door on counterweight has one hinge broken and the other rusted out, the latch also has no threads to secure it shut. (RB:LMCDONEL)	CM	AH-CV-009	INCLINED BELT CONVEYOR	Complete
7	16681	Loader in the tipping floor has loose door latch. Some of the hardware has fallen out and the door is loose on the latch pin. (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
8	16640	Unit 1 carbon. Quick connect threads worn out and carbon escaping (RB:BMURPHY2)	CM	CAR-PIP-1	ACTIVATED CARBON PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
9	16665	AH-CV- 201 CV hanger bearing jumping. (RB:BMURPHY2)	CM	AH-CV-201	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Complete
10	16636	Emergency call for CEM's Chiller HVAC high temp issue	CM	1-STK-CHR	STACK CEMS CHILLER UNIT 1	Complete
11	16669	This valve goes from automatic to manual once in a while for no apparent reason. Sometimes when in manual it goes to mode lock and can't be adjusted.. Please check out the logic for this valve so we can understand why it is doing this.. (RB:GOWLEY)	CM	1-TCV-4211	ECONOMIZER WATER BYPASS TEMPERATURE CONTROL VALVE UNIT 1	Complete
12	16670	A1 fan "low oil pressure" failing to start (RB:BMURPHY2)	CM	CD-AC-001	AIR COOLED CONDENSER	Complete
13	16668	Medium pressure extraction valve C-FV-0236 not showing open on DCS after recent plant islanding. Valve open in field (Aug 30) (RB:JPURCELL)	CM	C-FV-0238	MEDIUM PRESSURE EXTRACTION NON-RETURN VALVE	Complete
14	16705	Fabrication and supply of Tube Shields for SH3 as per BRE recommendation unit 2	CM	RF-BO-201	BOILER UNIT 2	Complete
15	16716	Provide GSC Engineer to resolve TG sync issue affecting Energy recovery.	CM	TG-SYS-GOV	T/G GOVERNOR CONTROL SYSTEM	Complete
16	16686	East crane AC unit drain into the new pump leaking around fitting (RB:BMURPHY2)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
17	16688	RO booster pump pressure relief valve PVC drain pipe broken. West side of RO. (RB:BMURPHY2)	CM	RO-SKD-1	RO SKID	Complete
18	16701	WELDING SUPPLIES INCLUDING CONSUMABLES AND RENTAL FOR BOILER MINOR OUTAGE UNIT 1 2020.	CM	RF-BO-201	BOILER UNIT 2	Complete
19	16702	Procurement of TC for boiler superheater and economizer area.	CM	2-TE-5223	BOILER SUPERHEATER OUTLET STEAM TEMPERATURE ELEMENT UNIT 2	Complete
20	16662	Q3 GHG SAMPLING FOR U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
21	16661	Q3 OPACITY AUDIT - U1 (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
22	16673	Unit 1 dust monitor 1-AIT-4791- Channel failure (RB:BMURPHY2)	CMENV	1-AIT-4711	OPACITY MONITOR UNIT 1	Complete
23	16663	Q3 GHG SAMPLING FOR U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
24	16658	Q3 CALIBRATION GAS AUDIT - U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete

SEPTEMBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
25	16639	Unit 1 THC outlet OOC 2x. "compliance emission" (RB:BMURPHY2)	CMENV	1-AE-4744	INLET THC ANALYZER UNIT 1	Complete
26	16660	Q3 OPACITY AUDIT - U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
27	16659	Q3 CALIBRATION GAS AUDIT - U1 (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
28	16682	NH3 2x out (RB:LMCDONEL)	CMENV	1-STK-PRB	STACK CEMS SAMPLE PROBE UNIT 1	Complete
29	16678	Unit 2 THC outlet OOC 2x out (RB:BMURPHY2)	CMENV	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
30	16687	#1 CEMS outlet MIR alarm in. Maintenance manager contacted, I&E on way (RB:LMCDONEL)	CMENV	1-CEM-LOG	CEMS DATA LOGGERS UNIT 1	Complete
31	16683	NH3 2x out (RB:LMCDONEL)	CMENV	2-STK-PRB	STACK CEMS SAMPLE PROBE UNIT 2	Complete
32	16675	Unit 1 "Data watch" Contacted Chuck Davis (RB:BMURPHY2)	CMENV	BLD-CEM	CEMS ENCLOSURE	Complete
33	16674	Unit 1 & 2 "Amesa trouble " (RB:BMURPHY2)	CMENV	BLD-CEM	CEMS ENCLOSURE	Complete
34	16677	Unit 1 THC outlet OOC 2x out. Compliance emission. (RB:BMURPHY2)	CMENV	1-AE-4744	INLET THC ANALYZER UNIT 1	Complete
35	16664	Unit 1 Ash discharger; above the platform door on the east side is missing 8 nuts and bolts. build up of ash on platform and ground floor (RB:BMURPHY2)	CMSAF	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
36	16656	Residual leak from expansion area. Chemical not known, potentially grease? (RB:LKWAN)	CMSAF	RF-FN-201	FURNACE UNIT 2	Complete
37	16657	Residue Building - Pugmill A & B - Protective cross bars need to be re-installed on the view ports. Pugmill B door safety latch also needs repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
38	16679	An exit sign on the ring road (adjacent tipping floor exit door) NW side flatten to the ground. Please re-affix to upright position. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
39	16667	Month 08 JHSC Walkdown Finding - APC - Wetting Mixer 201 - Guarding not adequately secured. Please secure. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
40	16693	Replace rigging slings after Annual inspection deficiency 2021.	CMSAF	RF-BO-201	BOILER UNIT 2	Complete

OCTOBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	16823	Rotary valve won't run. confirmed not jammed (RB:BMURPHY2)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
2	16822	RO-ORP analyzer reading negative (RB:BMURPHY2)	CM	RO-PLC-1	RO SKID PROCESS CONTROLS	Complete
3	16825	Elevator inside doors will not close for elevator to move to different floors. (RB:FTROTTIE)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
4	16824	Lost ability to open and close the West crane. East crane will not "auto feed" (RB:BMURPHY2)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
5	16816	This conveyor trips immediately when we try to start it remotely. We checked the conveyor and it is clear of blockages. I runs okay on jog. suspect speed sensor (RB:GCOWLEY)	CM	AH-CV-003B	RESIDUE BUILDING FLYASH SCREW CONVEYOR 3B	Complete
6	16818	SH 1.3 inlet thermocouple "channel failure" 2-TE-4314 (RB:BMURPHY2)	CM	2-TE-4314	SUPERHEATER 1.3 INLET FLUE GAS TEMPERATURE ELEMENT UNIT 2	Complete
7	16817	Boiler 1 feedchute level sensors "right low" and "left low" not reading level (RB:BMURPHY2)	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Complete
8	16831	no alarm on DCS. (RB:FTROTTIE)	CM	1-FSH-3818	BOILER ENCLOSURE UNIT 1 EAST SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete
9	16830	2-QL-4776-23 3rd wetting mixer nozzle solenoid not activating when it should be open. last opened was Sept 12/21 15:45 (RB:CSHAFFER)	CM	WW-WC-202	RECIRC FLYASH MIXER 2 WATER CABINET UNIT 2	Complete
10	16833	packing leaking (RB:FTROTTIE)	CM	SB-RET-205	SUPERHEATER 3 RETRACTABLE SOOTBLOWER 5 UNIT 2	Complete
11	16832	Please repair leaking vacuum breaker (RB:FTROTTIE)	CM	SB-ROT-109	ECONOMIZER ROTARY SOOTBLOWER 9 UNIT 1	Complete
12	16826	Martin run 2 Air ADM Flap for zone2 not working air leak (RB:FTROTTIE)	CM	1-PIT-4203	UNDERGRATE AIR HEADER PRESSURE TRANSMITTER UNIT 1	Complete
13	16829	Wetting mixer 202 - 3rd nozzle solenoid not activating. 2-QI-4776-23 not opening when it should be. last operated: Sept 12/21 15:45 (RB:CSHAFFER)	CM	WW-WC-202	RECIRC FLYASH MIXER 2 WATER CABINET UNIT 2	Complete
14	16804	Conveyor continuously tripping (RB:BMURPHY2)	CM	APCAH-CV-107	EVAPORATIVE COOLER FLYASH SCREW CONVEYOR S1.7 UNIT 1	Complete
15	16803	Steam will not shut off. Steam valve closed at soot blower. (RB:FTROTTIE)	CM	SB-ROT-210	ECONOMIZER ROTARY SOOTBLOWER 10 UNIT 2	Complete
16	16795	Procurement of SGM2 Card for MIR9000	CM	1-CEM-LOG	CEMS DATA LOGGERS UNIT 1	Complete
17	16798	housing broken (RB:JMACLEOD)	CM	SB-ROT-108	SUPERHEATER 1.1 ROTARY SOOTBLOWER 8 UNIT 1	Complete
18	16812	When R.O. is run, first pass booster pump cycles up and down. Not sure if this is a problem with the pump or something else making the pressure fluctuate. (RB:GCOWLEY)	CM	BWT-PIP-COM	BOILER WATER TREATMENT PIPING, VALVES AND ATTACHMENTS	Complete
19	16808	East side relief lifted and needed to be reset. May be issue with regulator feeding it as pressure was high and not adjustable (RB:LMCDONEL)	CM	IA-PSV-1002	RECIRC FLYASH HOPPER DISCHARGE 2 FLUIDIZING NOZZLES INSTRUMENT AIR RECEIVER TANK PRESSURE RELIEF VALVE UNIT 1	Complete
20	16814	4 of the PVC ball valves for supplying water to discharger need replacing 1 1/4 inch (RB:FTROTTIE)	CM	SR-DC-201	ASH DISCHARGER UNIT 2	Complete
21	16813	Please repair hole on conveyor#7 at the end of the grizzly (RB:FTROTTIE)	CM	BLD-GRIZ	GRIZZLY BUILDING	Complete
22	16806	Couldn't find a referable tag. ORP probe is not working in the sample line for the RO. We calibrated it and it read well in the solution but is getting negative numbers on HMI. Bisulfite pumps are currently in manual. (RB:LMCDONEL)	CM	TOOL-GEN	TOOLS GENERAL	Complete
23	16874	Boiler 2 APC quench outlet probe TT-4763-3 is failed (Oct 5) (RB:JPURCELL)	CM	2-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 2	Complete
24	16873	West crane limit switch monitoring alarms active and hoist upper movement restricted. Several 3 way calibrations completed with no success (Oct 15) (RB:JPURCELL)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete

OCTOBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
25	16876	Residue loader has alarm in. Tilt linkage position sensor voltage high alarm (Oct 13) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
26	16875	tipping hall loader requires truck communication radio to be re-installed. Truck radio is in residue building loader (Oct 12) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
27	16870	Line coming from settling pump to EL18 by #2 feed chute is plugged .NO Flow (RB:FTROTTIE)	CM	WW-TK-002	WASTE WATER SETTLING BASIN	Complete
28	16869	Please weld new stud for door on spool between rotary valve and knife gate. Also repair hinges on this door to. (RB:FTROTTIE)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
29	16872	East crane mechanical noise identified from north side bridge area; required inspection and repair (Oct 15) (RB:JPURCELL)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
30	16871	Tipping hall loader battery low voltage alarm. loader is not presently usable (Oct 15) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
31	16886	Boiler 2 SB 118 EL 20 east side leaking steam - steam isolated (RB:BMURPHY2)	CM	SB-ROT-218	ECONOMIZER ROTARY SOOTBLOWER 18 UNIT 2	Complete
32	16885	Channel 1 is showing 26ppm channel 2 is show 20ppm. Alarm at dike on but no alarm on DCS in control room. also all sensor in dike are showing 0 ppm (RB:FTROTTIE)	CM	AQ-LD-CD	AQUEOUS AMMONIA CONTAINMENT DIKE LEAK DETECTOR SYSTEM	Complete
33	16887	Residue loader bucket scraper lose on the left side (RB:FTROTTIE)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
34	16878	Service Call for West Refuse Crane cabinet HVAC issue	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
35	16877	Level is below low mark (RB:LMCDONEL)	CM	RF-SKD-201	STOKER HYDRAULIC SKID UNIT 2	Complete
36	16879	Loader in the residue building requires cutting edge flip. Cutting edge is getting worn down (Sept 9) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
37	16840	450 VA UPS loss of network connection for scale house (RB:BMURPHY2)	CM	BLD-SCAL	TRUCK SCALE HOUSE	Complete
38	16839	Quench outlet temperature probe 2-TI-4763-2 has failed and is throwing the averaging all over. Flow control valve is in manual. (RB:CSHAFFER)	CM	1-FCV-4757	EVAPORATIVE COOLER QUENCH WATER FLOW CONTROL VALVE UNIT 1	Complete
39	16843	Grapple that is on the east crane is closing on it's own after a few minutes of being open. We could use it in emergency, but parked it for now (RB:GCOWLEY)	CM	RF-GRP-1	REFUSE CRANE HYDRAULIC GRAPPLE 1	Complete
40	16842	C-V-242. TG Gland sealing steam condenser motor wont run alarm banner; "steam gland condenser electrical fault" (RB:BMURPHY2)	CM	BLD-TG	TURBINE BUILDING	Complete
41	16835	Fly ash surge bin B rotary valve has missing motor mount bolts. Motor moves/walks under torque (Sept 17) (RB:JPURCELL)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
42	16834	East Crane grapple when suspended with the tines open. Will slowly close on their own. Possible hydraulic check valve leak that could	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
43	16866	Soot blower turns but no steam flow (RB:FTROTTIE)	CM	SB-ROT-218	ECONOMIZER ROTARY SOOTBLOWER 18 UNIT 2	Complete
44	16865	damaged retracted limit switch. Unit 1 grate run 2 (hydraulic cylinder retracted) 1-ZSR-3928 (RB:BMURPHY2)	CM	RF-GR-1012	STOKER GRATE RUN 2 UNIT 1	Complete
45	16868	tipping hall loader alarm. Loader lift voltage high. Can not raise the loader arms more then a couple of inches. (Oct 16) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
46	16867	Boiler 2 sootblower 105 has heavy leakage from seal area (Oct 17) (RB:JPURCELL)	CM	SB-RET-205	SUPERHEATER 3 RETRACTABLE SOOTBLOWER 5 UNIT 2	Complete
47	16845	Loader in the residue building requires cutting edge flip. Cutting edge is getting worn down (Sept 9) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete

OCTOBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
48	16844	Control cabinet on #1 is getting a "low press. alarm". When pressure is applied to the door it goes away. Could be slight bend in door or failing seal around door. (RB:LMCDONEL)	CM	1-AB-PLC	AUXILIARY BURNER PROCESS CONTROLS UNIT 1	Complete
49	16799	Repair CEMs AMESA chiller not working	CM	1-STK-CHR	STACK CEMs CHILLER UNIT 1	Complete
50	16810	Insert AMESA trap and pieces for U2 - set "B" (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
51	16828	HCL is out of control 4 times out (RB:FTROTTIE)	CMENV	1-AE-4732	STACK HCL ANALYZER UNIT 1	Complete
52	16809	Insert AMESA trap and pieces into U1 - set "A" (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
53	16837	U1 removal of AMESA trap, pieces and probe. Spacer trap to be inserted in place for outage (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
54	16841	Unit 2 HLC outlet OOC 2x (RB:BMURPHY2)	CMENV	2-AE-4731	INLET HCL ANALYZER UNIT 2	Complete
55	16836	U2 removal of AMESA trap, pieces and probe. Spacer trap to be inserted in place for outage (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
56	16819	Month 09 JHSC Finding - Water Treatment Basement - Light Blown - please replace bulb (RB:DPICKETT)	CMSAF	02-Medium	SAF-GEN	Complete
57	16820	Month 09 JHSC Finding - Water Treatment Basement - Inadequate space for oil skids. Please relocate ladder rack away for oil storage area (RB:DPICKETT)	CMSAF	02-Medium	SAF-GEN	Complete

November 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	16983	South east of ladder on tank heat tracing light on outside connection not working. I have put caution tape on this to point out heat tracing problem with tag (RB:FTROTTIE)	CM	FP-TK-001	FIRE WATER STORAGE TANK	Complete
2	16979	Please check out Ele. .Motor on grease pump. Bearing making noise and pump tripped and reset (RB:FTROTTIE)	CM	RF-PU-202	STOKER GREASE PUMP UNIT 2	Complete
3	16985	Procurement of CA fan bearing set for replacement on Unit 2	CM	CA-FN-201	COMBUSTION AIR FAN UNIT 2	Complete
4	16984	DV2 fault-west crane (RB:BMURPHY2)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
5	16977	Heat tracing on charging deck no lights .No power. (RB:FTROTTIE)	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Complete
6	16976	Heat tracing on tipping floor lights not work .Checked 600 volt room breaker are ok .But lights not on heat tracing (RB:FTROTTIE)	CM	BLD-TIP	TIPPING FLOOR	Complete
7	16978	Residue MCC room HVAC unit needs checking out temp in room was 78 unit was off and showing power lost on system 2. (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Complete
8	16989	Service water inlet where it changes to plastic piping has sheared off past the flange as well as after the 90 into the discharger downstream of the control valve. Joe is aware and locating parts. (RB:LMCDONEL)	CM	SR-DC-201	ASH DISCHARGER UNIT 2	Complete
9	16991	Boiler 1 combustion air fan damper closing causing low flow. Solenoid replaced nov 5 (RB:JPURCELL)	CM	CA-FN-101	COMBUSTION AIR FAN UNIT 1	Complete
10	16987	Small hole in west upper door, currently packed with insulation (RB:LMCDONEL)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
11	16986	Tip floor loader rubber wearing out (RB:LMCDONEL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
12	16988	No settling basin water is getting into #2 discharger. Suspect the check valve may be plugged or stuck shut (RB:GCOWLEY)	CM	2-LV-3005	ASH DISCHARGER MAKE-UP WATER LEVEL CONTROL VALVE UNIT 2	Complete
13	16967	NO HEAT THERMOSATE BROKEN (RB:FTROTTIE)	CM	HV-UH-001	BOILER BUILDING GAS UNIT HEATER 1	Complete
14	16966	East crane hoist on top of unit 1 baghouse. Will not power on ? missing fuse? (RB:BMURPHY2)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
15	16969	NO THERMOSTAT WILL NOT START (RB:FTROTTIE)	CM	HV-UH-004	BOILER BUILDING GAS UNIT HEATER 4	Complete
16	16968	Thermostat not working will not start up (RB:FTROTTIE)	CM	HV-UH-002	BOILER BUILDING GAS UNIT HEATER 2	Complete
17	16964	RO recycle tank makeup valve is passing and overflowing to floor when RO is off. (RB:FTROTTIE)	CM	RO-PLC-1	RO SKID PROCESS CONTROLS	Complete
18	16961	When trolley is moved it is making a squealing noise. Please check out. (RB:GCOWLEY)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
19	16965	"Vib hihi" sheared wire on the west vibration monitor (RB:BMURPHY2)	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Complete
20	16974	NO FAN AND NO HEAT (RB:FTROTTIE)	CM	HV-UH-011	TURBINE BUILDING GAS UNIT HEATER 11	Complete
21	16973	NO FAN AND NO HEAT (RB:FTROTTIE)	CM	HV-UH-010	TURBINE BUILDING GAS UNIT HEATER 10	Complete
22	16975	FAN STARTS BUT NO GAS OR HEAT (RB:FTROTTIE)	CM	HV-UH-023	FIRE PUMP HOUSE GAS UNIT HEATER 23	Complete

November 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
23	16971	NO GAS NO HEAT (RB:FTROTTIE)	CM	HV-UH-008	APC AREA GAS UNIT HEATER 8	Complete
24	16970	FAN STARTS MAKING NOISE BUT NO HEAT (RB:FTROTTIE)	CM	HV-UH-005	BOILER BUILDING GAS UNIT HEATER 5	Complete
25	16972	NO FAN AND NO GAS (RB:FTROTTIE)	CM	HV-UH-009	TURBINE BUILDING GAS UNIT HEATER 9	Complete
26	17027	Train 1 fault no start on train 1 and no flow. (RB:FTROTTIE)	CM	LI-CV-101	HYDRATED LIME FEED SCREW CONVEYOR S1.8 UNIT 1	Complete
27	17026	Please check out this has tripped and we had to reset rotary valve . (RB:FTROTTIE)	CM	LI-RV-201	HYDRATED LIME SILO HOPPER DISCHARGE ROTARY VALVE UNIT 2	Complete
28	17028	Lost prime 2 times during shift and looks like suction line is starting to collapse. (RB:FTROTTIE)	CM	WW-PU-002B	WASTE WATER SETTLING BASIN SUMP PUMP B	Complete
29	17016	The rotary valve for this conveyor only will turn less than half a revolution. It stopped on days, they changed the shear pin and the pin broke right away. We tried it with a wrench, only turns part of a revolution. Please check this out. (RB:GCOWLEY)	CM	APCAH-CV-206	BAGHOUSE FLYASH EMERGENCY COLLECTION SCREW CONVEYOR S1.6 UNIT 2	Complete
30	17025	Unit 2 THC 4x OOC (RB:BMURPHY2)	CM	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
31	17060	Leaking bad (RB:BMURPHY2)	CM	SB-ROT-118	ECONOMIZER ROTARY SOOTBLOWER 18 UNIT 1	Complete
32	17031	Under fire air Run 1 Zone 3 just above round door hole in under fire air zone. need welding patch. (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
33	17032	Elevator not working door will not open and at level 1. (RB:FTROTTIE)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
34	17002	got some rope out of groove alarms for no apparent reason. Checked cables each time and saw nothing wrong. Took crane out of service for now. Please check this out. (RB:GCOWLEY)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
35	17001	Motor is shaking per revolution. Upon investigation, it appears that the hanger bearing at first access port is loose and causing the motor to shake. (RB:CSHAFFER)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
36	17003	Welding reciprocal/ pressure washer disconnect in residue MCC not closing (RB:BMURPHY2)	CM	BLD-RES	RESIDUE BUILDING	Complete
37	16993	boiler 1 martin UFA dampers open 100% on zone 1-4. required relay output module replacement. Nov 5 (RB:JPURCELL)	CM	CA-FN-101	COMBUSTION AIR FAN UNIT 1	Complete
38	16992	Surge bin B spool piece inspection door bolt sheared off. Using ratchet strap to keep door closed. Nov 5 (RB:JPURCELL)	CM	AH-BIN-001B	FLYASH SURGE BIN B	Complete
39	17014	The pump stopped pumping during the shift. We cleaned the outlet strainer and checked the suction. Tried many times to get it pumping but no luck (RB:GCOWLEY)	CM	WW-PU-002B	WASTE WATER SETTLING BASIN SUMP PUMP B	Complete
40	17015	Pugmill A wouldn't jog, nor the surge bin A vibrator. DCS says the estop is active but we pulled the estop. Need E&I to take a look into Pugmill A. Needs to be ready prior for stack test. (RB:CSHAFFER)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
41	17005	Residue MCC room HVAC unit failed on system 2 again. Please check out HVAC unit (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Complete

November 2021 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
42	17004	Power line to grapple strap broken near grapple .Needs repair (RB:FTROTTIE)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
43	17011	AH-CV-007- West motor fan broken (RB:BMURPHY2)	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Complete
44	16958	Month 10 JHSC Walkdown Finding - Thermal Hazard - #1 & #2 new blasting/inspection doors not insulated. Please insulate. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
45	16959	Month 10 JHSC Walkdown Finding - El.23 #1 west side - Thermal hazard - Main steam line drain has exposed piping. Please re-insulate. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
46	16956	Month 10 JHSC Walkdown Finding - El.18 NE side - Air hose missing quick connect. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
47	17024	Month 11 JHSC Inspection Finding - ACC middle - 2 tonne beam clamp laying near door with no record of inspections. Please remove from service, add to inventory and conduct required inspection. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
48	16981	AMESA trap exchange with piece F on U2 (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
49	16980	AMESA trap exchange with piece E on U1 (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
50	16982	Annual PG7 CEM's Audit	CMENV	CEM-SERV	CEM FILE SERVER	Complete
51	16962	CEMS Unit 2 NOX o/l OOC 2x (RB:BMURPHY2)	CMENV	2-AE-4738	STACK NOX ANALYZER UNIT 2	Complete
52	16963	CEMS unit 2 O2-dry- i/l OOC 4x (RB:BMURPHY2)	CMENV	2-AE-4790	INLET OXYGEN ANALYZER UNIT 2	Complete
53	17009	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 2	Complete
54	17008	OUT OF CONTROL (RB:FTROTTIE)	CMENV	1-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 1	Complete
55	17010	GHG sampling - 24 hrs (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
56	17006	OUT OF CONTROL (RB:FTROTTIE)	CMENV	1-AE-4737	STACK OXYGEN ANALYZER UNIT 1	Complete
57	17007	OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4737	STACK OXYGEN ANALYZER UNIT 2	Complete

DECEMBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	W/O Type	Tag Number	Asset Description	Status
1	17168	Pugmill B single water solenoid north end is failing to come on and stay on (RB:BMURPHY2)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
2	17167	Residue loader anti-freeze reservoir leaking (RB:BMURPHY2)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
3	17172	Heat trace on pugmill B water line burnt out (RB:BMURPHY2)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
4	17170	Please check out solenoid on air to recir hopper. Doesn't sound correct when discharging air. (RB:FTROTTIE)	CM	IA-TK-202	RECIRC FLYASH HOPPER DISCHARGE 2 FLUIDIZING NOZZLES INSTRUMENT AIR RECEIVER TANK UNIT 2	Complete
5	17161	electrical connection loose. Taped on for a temp fix (RB:BMURPHY2)	CM	1-HV-7805	ECONOMIZER HOPPER A1 DOUBLE DUMP VALVE UNIT 1	Complete
6	17156	Shear pin is broken. No AO's today. (RB:CSHAFFER)	CM	AH-RV-104	BAGHOUSE FLYASH COLLECTION SCREW CONVEYOR S1.6 DISCHARGE ROTARY VALVE UNIT 1	Complete
7	17180	east roll up door - when door is closing it is going past it's lower limit and bowing out at the bottom (RB:BMUIR)	CM	BLD-TIP	TIPPING FLOOR	Complete
8	17182	loss of feedback - work ongoing (RB:BMUIR)	CM	RF-FDT-2012	FEEDTABLE RAM 2 UNIT 2	Complete
9	17181	temp fix put on for now - J Flynn to work on tomorrow (RB:BMUIR)	CM	1-HV-7805	ECONOMIZER HOPPER A1 DOUBLE DUMP VALVE UNIT 1	Complete
10	17174	Valve is sticking at 105 % open have to put in manual set it to90%open then back in auto to control (RB:FTROTTIE)	CM	1-FCV-4757	EVAPORATIVE COOLER QUENCH WATER FLOW CONTROL VALVE UNIT 1	Complete
11	17173	Control room phone not working. No connection. (RB:BMURPHY2)	CM	COM-PHONE	TELEPHONE SYSTEM	Complete
12	17175	Valve is sticking at 105 % open have to put in manual set it to90%open then back in auto to control (RB:FTROTTIE)	CM	2-FCV-4757	EVAPORATIVE COOLER QUENCH WATER FLOW CONTROL VALVE UNIT 2	Complete
13	17140	Repair and re-build hydraulic cylinders for grapple	CM	RF-GRP-3	REFUSE CRANE HYDRAULIC GRAPPLE 3	Complete
14	17137	Procure Flame Scanner Power Supply from COEN for unit 2 burner	CM	2-FIC-3601	AUXILIARY BURNER NATURAL GAS FLOW CONTROLLER UNIT 2	Complete
15	17144	Shaft has separated from the 2nd bearing and is jumping (RB:BMURPHY2)	CM	AH-CV-201	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Complete
16	17143	Can we please get the heater for the pugmill pressure washer in and installed. (RB:LMCDONEL)	CM	BLD-PUG	PUGMILL BUILDING	Complete
17	17134	Supply of Scraper for incline conveyor belt	CM	AH-CV-009	INCLINED BELT CONVEYOR	Complete
18	17133	Cost to repair loader bucket including sandblasting ,supply of steel and transportation.	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
19	17153	SOLENOID Diaphragm E256-06C needs changing (RB:FTROTTIE)	CM	FG-BG-200	BAGHOUSE UNIT 2	Complete
20	17152	SOLENOID Diaphragm E154-04C needs changing (RB:FTROTTIE)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
21	17154	Hydraulic Oil Leak. Consistence dripping of hydraulic oil. (RB:CSHAFFER)	CM	RF-FDT-2011	FEEDTABLE RAM 1 UNIT 2	Complete
22	17150	SOLENOID Diaphragm E146-02C needs changing (RB:FTROTTIE)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
23	17149	Martin rear view port right side of barn door view port flapper pin broken (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
24	17151	SOLENOID Diaphragm E150-03C needs changing (RB:FTROTTIE)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
25	17233	The Diverter Gate is becoming increasingly more difficult to move. One handle is broken off and are using a pipewrench instead, It requires at least 3 people to move it. This has become too much a brute force requirement to move it. (RB:CSHAFFER)	CM	AH-DG-001	NON-FERROUS DIVERTER GATE	Complete
26	17232	4 out of 6 water nozzles aren't running. Can the solenoids be checked. The solenoid supplying 3 nozzles is working. (RB:CSHAFFER)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
27	17244	not working at all (RB:GCOWLEY)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
28	17228	Fan belt was squealing loud. turned off until inspected. (RB:CSHAFFER)	CM	HV-FN-002	BOILER BUILDING REVERSIBLE POWER ROOF VENTILATOR 2	Complete
29	17227	Residue front end loader door latch not locking; missing lock pin (RB:BMURPHY2)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
30	17231	Water leak at beginning of cycle (RB:CSHAFFER)	CM	SB-ROT-202	SUPERHEATER 2 ROTARY SOOTBLOWER 2 UNIT 2	Complete
31	17249	Residue Loader (RB:CSHAFFER)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete

DECEMBER 2021 CORRECTIVE MAINTENANCE

Select	Work Order ID	Task Description	W/O Type	Tag Number	Asset Description	Status
32	17246	Oil leaking from the chain drive cover. Possible gearbox leak? (RB:CSHAFER)	CM	AH-RV-103	RECIRC FLYASH HOPPER SKIMMING SCREW CONVEYOR DISCHARGE ROTARY VALVE UNIT 1	Complete
33	17247	rotary valve going to emergency screw seized. The corresponding valve on #2 is still also seized (RB:GCOWLEY)	CM	AH-RV-104	BAGHOUSE FLYASH COLLECTION SCREW CONVEYOR S1.6 DISCHARGE ROTARY VALVE UNIT 1	Complete
34	17213	Lighting above Bay 1 has been damaged by the loader and needs repair/replacement. (RB:CSHAFER)	CM	347-LP106B2	347 V LIGHTING PANEL LP106-B2 RESIDUE PDC	Complete
35	17219	Leaking oil onto the ground. (RB:CSHAFER)	CM	APCAH-CV-107	EVAPORATIVE COOLER FLYASH SCREW CONVEYOR S1.7 UNIT 1	Complete
36	17214	Residue building east and west man doors not latching closed (RB:BMURPHY2)	CM	BLD-RES	RESIDUE BUILDING	Complete
37	17184	The extra length of power cable came loose and got wrapped around the yellow bar. We re-attached it with zip ties. Please make sure it is situated properly, we are not sure. (RB:GCOWLEY)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
38	17183	VFD tripping on extend limit (RB:BMUIR)	CM	RF-GR-1011	STOKER GRATE RUN 1 UNIT 1	Complete
39	17185	Boiler 1 platcco above 102 conveyor had failed solenoid. Plattco was stuck open. Repaired Dec 3. (RB:JPURCELL)	CM	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
40	17223	Please fasten power cable to top of grapple. cable is loose needs checking . (RB:FTROTTIE)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
41	17225	C-HS-5122/ C-LV-5122 Service water fill valve to waste water tank erratic (RB:BMURPHY2)	CM	C-LIT-5122	WASTE WATER HOLDING TANK LEVEL INDICATING TRANSMITTER	Complete
42	17221	Agitator not working, belt probably broken. Kory notified (RB:GCOWLEY)	CM	LI-TK-101	HYDRATED LIME LOSS IN WEIGHT FEEDER UNIT 1	Complete
43	17220	Probe signal failure. started 530am. (RB:CSHAFER)	CM	1-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 1	Complete
44	17157	Please check out NH3 on unit 2 CEMS when coming out of calibration since 20:00 ammonia flow drops NH# going up then valve is slow to respond to flow. (RB:FTROTTIE)	CMENV	2-AE-4738	STACK NOX ANALYZER UNIT 2	Complete
45	17158	OUT OF CONTROL 4 TIMES OUT (RB:FTROTTIE)	CMENV	2-AE-4732	STACK HCL ANALYZER UNIT 2	Complete
46	17155	#2 THC out of control - x2 (RB:BMUIR)	CMENV	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
47	17160	OUT OF CONTROL 4 TIMES OUT (RB:FTROTTIE)	CMENV	2-AE-4734	STACK SULFUR DIOXIDE ANALYZER UNIT 2	Complete
48	17163	ONE TIME OUT (RB:FTROTTIE)	CMENV	2-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 2	Complete
49	17159	OUT OF CONTROL 4 TIMES OUT (RB:FTROTTIE)	CMENV	2-AE-4738	STACK NOX ANALYZER UNIT 2	Complete
50	17145	thc OUT OUT OF CONTROL 4 TIMES OUT (RB:FTROTTIE)	CMENV	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
51	17146	nh3 OUT 1 TIME (RB:FTROTTIE)	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
52	17148	temp power set up for ORTECH trailers (RB:LKWAN)	CMENV	120-DP105A3	120 V DISTRIBUTION PANEL DP105-A3 APC BLDG	Complete
53	17147	THC 1 time out (RB:FTROTTIE)	CMENV	1-AE-4744	INLET THC ANALYZER UNIT 1	Complete
54	17215	AMESA exchange on U2 for stack testing sample to monthly (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
55	17216	AMESA exchange on U1, short term to long term sampling (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
56	17177	HCL on unit 2 2 times out (RB:FTROTTIE)	CMENV	2-AE-4732	STACK HCL ANALYZER UNIT 2	Complete
57	17218	AMESA exchange on U2, insert for stack testing (Run 68) (RB:LKWAN)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
58	17226	Unit 2 HCL o/1 2x ooc (RB:BMURPHY2)	CMENV	2-AE-4732	STACK HCL ANALYZER UNIT 2	Complete
59	17217	AMESA exchange on U1, insert for stack testing (Run 68) (RB:LKWAN)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
60	17165	ONE TIME OUT (RB:FTROTTIE)	CMENV	2-AE-4748	STACK CARBON DIOXIDE ANALYZER UNIT 2	Complete
61	17166	ONE TIME OUT (RB:FTROTTIE)	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
62	17164	ONE TIME OUT (RB:FTROTTIE)	CMENV	2-AE-4732	STACK HCL ANALYZER UNIT 2	Complete
63	17171	NOX out 2 times (RB:FTROTTIE)	CMENV	2-AE-4738	STACK NOX ANALYZER UNIT 2	Complete
64	17169	one time out on THC unit 1 (RB:FTROTTIE)	CMENV	1-AE-4744	INLET THC ANALYZER UNIT 1	Complete
65	17178	The e-stop on incline conveyor (mid-to-lower) section is broken. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
66	17236	West of fire pump house - the no parking fire route sign has been hit and torn from the ground. Please re-install (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete