Durham York Energy Centre

ECA 7306-8FDKNX

2020 Annual Report

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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 2020 Durham York Energy Centre (“DYEC”) Annual Report, covering operations during the 2020 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 and April 22nd, 2020. The final amendment was issued in anticipation of an increase in Waste receipt due to the COVID-19 pandemic. It contained conditions with options for a temporary

increase in waste tonnage processed up to 160,000 tonnes per year, extended operating hours, increased indoor and outdoor storage allowance subject to daily inspections, and a reduction in the number of waste loads tipped on the floor for visual inspection. The Amendment was in effect up until 90 days after the Ontario Government ended the Declaration of Emergency to Protect the Public Health, with the exception of waste processing tonnage, which was in effect for the remainder of 2020.

Table 1: Annual Report Requirements

ECA Condition	Section
15.(1) Annual Report 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. This Annual Report shall include, as a minimum, the following information:	NA
15.(1)(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
15.(1)(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
15.(1)(c) estimated material balance for each month documenting the maximum amount of wastes stored at the Site;	3.3
15.(1)(d) annual water usage;	4.1
15.(1)(e) annual amount of the electricity produced and the annual amount of the electricity exported to the electrical grid;	4.2
15.(1)(f) summaries and conclusions from the records required by Conditions 14.(3) through 14.(8) of this Certificate;	NA
14.(3) Daily Activities	NA

ECA Condition	Section
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:	
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	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: (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
14.(4)(f) all records produced during any Source Testing;	5.5, Appendix

ECA Condition		Section
		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) µSv / 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

ECA Condition	Section
14. (4)(n) results the negative pressure in the Tipping Building carried out, as required.	10.2
14.(5) Inspections / Maintenance / Repairs 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: (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.	10 Appendix 6
14.(6) Emergency Situations The Owner shall maintain an on-Site written or digital record of the emergency situations. As a minimum, the record shall include the following: (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; and (f) description of the preventative and control measures undertaken to minimize the potential for re-occurrence of the	12

ECA Condition	Section
emergency situation in the future.	
14.(7) Complaints Response Records The Owner shall establish and maintain a written or digital record of complaints received and the responses made as required by this Certificate.	13
14.(8) Training 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: (a) date of training; (b) name and signature of person who has been trained; and (c) description of the training provided	15
15.(1) Annual Report (g) the Emission Summary Table and the Acoustic Assessment Summary Table for the Facility as of December 31st from the previous calendar year;	Appendix 3, Appendix 4
15.(1)(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;	11
15.(1)(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 Source Testing, reasons for the excursions and corrective measures taken to eliminate the excursions;	5.3, 5.4
15.(1)(j) results of the evaluation of the performance of the long-term sampling system in determining the Dioxins and Furans emission	5.6

ECA Condition	Section
trends and / or fluctuations for the year reported on as well as demonstrating the ongoing performance of the APC Equipment associated with the Boilers;	
15.(1)(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
15.(1)(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
15.(1)(m) a summary of any emergency situations that have occurred at the Site and how they were handled;	12
15.(1)(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
15.(1)(o) summaries of the Advisory Committee meetings, including the issues raised by the public and their current status;	14
15.(1)(p) any recommendations to improve the environmental and process performance of the Site in the future;	17
15.(1)(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
15.(1)(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 2020 reporting year, refer to **Appendix 1.**

1.1. Statement of Compliance

During the 2020 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 12.27 MJ/kg and 13.77 MJ/kg with an average of 13.11 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 then 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 Centre

2.3. Waste Quantity

The Facility received a temporary Emergency Amendment on April 22nd, 2020 allowing an increase in the maximum thermal treatment rate from 140,000 to 160,000 tonnes. In 2020, DYEC received 145,343 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	9,740	3,388	13,128	0.00	13,128	2,485
February	7,894	2,685	10,579	0.00	10,579	2,051
March	6,544	1,794	8,338	0.55	8,337	2,631
April	10,869	2,776	13,645	0.00	13,645	2,771
May	9,768	2,719	12,488	0.00	12,488	2,690
June	9,708	2,830	12,538	0.00	12,538	2,405
July	10,462	2,967	13,429	0.00	13,429	2,298
August	10,616	2,627	13,243	0.00	13,243	2,428

Month	Durham	York	Total MSW Received	Rejected / Unacceptable MSW	Net MSW Received	Estimated Maximum Daily Onsite Storage
September	8,594	2,425	11,019	0.00	11,019	2,550
October	8,398	2,208	10,606	0.00	10,606	2,491
November	9,773	2,670	12,443	0.00	12,443	2,401
December	10,729	3,158	13,888	2.09	13,886	2,622
Total	**113,095**	**32,248**	**145,343**	**2.64**	**145,341**	**-**

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

The waste received in 2020 was not all processed within the calendar year. Instead, the quantity of waste thermally treated in the Boilers during 2020 was 144,798 tonnes.

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 941.39 tonnes on August 4th, 2020.

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 2,771 tonnes (approximately 6,667 m^3) on April 9th, 2020. (MSW density = 415 kg / m^3).

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 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. There were two loads rejected from the facility due to radiation during 2020. On February 20nd and August 12th, the LFM-3 radiation detector identified one load on each day with elevated radiation. Both loads were rejected and returned to their transfer station of origin.

Daily waste screening by the Equipment Operator segregates these infrequent Unacceptable Wastes and stores them in a secure bermed area (which ensures no adverse effects from their storage) and a dedicated cage outside the Tipping Floor. On June 11th, 2018, the MECP was notified that a recently completed external fire safety inspection required that 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 Ontario Regulation 347 made under the Environmental Protection Act, R.S.O. 1990. During 2020, two 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 2020.

2.4.2. Bulky Unprocessable Items

Bulky Unprocessable Items mean the incoming Waste received at the Site that cannot be processed in the Equipment. One shipment of Bulky Unprocessable Items was

removed from the Facility on December 31, 2020. This shipment included oversized items such as hot tubs, plastic totes and pipes.

Table 3: Rejected Waste

Date	Category	Manifest Number	Tonnes
13-Mar-2020	Unacceptable	CI19573-6	0.55
21-Dec-2020	Unacceptable	CI14273-7	0.88
31-Dec-2020	Bulky Unprocessable	NA	1.21
Total			2.64

Note: December 31, 2020 removal of Bulky Unprocessable Waste did not require a manifest. Items were not hazardous.

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 the 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 the fly ash sent for disposal is not leachate toxic after conditioning using the Toxicity Characteristic Leaching Procedure (TCLP), as defined in Ontario Regulation 347 and the EPA Method 1311.

From January 1st to March 30th, 2020 bottom and fly ash were transported to the South Landfill, owned and operated by Walker Industries in Niagara Falls, Ontario. Beginning April 1st, bottom ash was transported to Modern Landfill in Model City, New York and fly ash continued to be transported to the South Landfill. 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. In the fall of 2017, the first triennial CASTP was executed on November 11, 2017

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".*

In addition, 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 statistical procedures. In 2020, quarterly samples were performed on February 4th, June 2nd and July 28th. The second triennial CASTP was executed over five days from October 24th to October 29th, 2020. Sampling on October 26th, 2020 was aborted due to having to take boilers offline for turbine rupture disk repair.

The results in 2020 demonstrated that the bottom ash met the "incinerator ash" definition from Ontario Regulation 347 and that 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 4th, June 2nd, July 28th and October 24th, 2020.

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 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 that are located exterior to the Residue Storage Building. The pozzolan and cement are metered via rotary valves and are conveyed into the pugmills via the Portland cement / pozzolan conveyors. Finally, water is added in the pugmills to the fly ash, pozzolan and cement and then thoroughly mixed. The ash mixture is then discharged into the first of seven fly ash bays. The ash

mixture is kept on site for a time sufficient 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 on an annual basis, until the compliance testing results indicated that the fly ash was non-hazardous for three (3) consecutive years. The first triennial CASTP 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”.

There were no shipments of untreated fly ash from the Facility during 2020.

The results in 2020 demonstrated that fly ash met the Leachate Toxicity Criteria and it could be managed as a solid non-hazardous solid waste. The ash continues to be used as daily cover.

On a quarterly basis, to comply with the requirements of the National Pollutant Release Inventory (NPRI), samples are collected to determine pollutant releases to land. The samples were collected on February 4th, May 20th, July 28th and November 21st, 2020.

3.2. Metals

In February 2020, ferrous and non-ferrous metals were redirected to Triple M Metal LP foundry in Hamilton from the Gerdau AmeriSteel foundry located in Whitby. In July 2020, Triple M Metal LP changed the destination of metals for recycling to 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 Wastes shipped per month and the daily maximum amount of waste stored on site per month. Refer to **Table 4** and **Table 5.**

Table 4: Residual Waste Shipments (Tonnes)

Limit / Month	Bottom Ash	Fly Ash	Ferrous	Non-Ferrous
January	2,258	1,153	283	36
February	1,977	963	244	24
March	1,213	968	153	21
April	2,658	1,051	363	59
May	2,350	1,339	380	30
June	2,507	1,340	374	31
July	2,601	1,266	366	60
August	2,389	1,351	369	31
September	2,505	1,306	346	59
October	1,621	870	226	0
November	2,644	1,185	290	29
December	2,485	1,254	338	57
Total	**27,209**	**14,045**	**3731**	**437**

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	190	99	34	19
February	194	113	27	24
March	135	128	28	21
April	178	78	29	31
May	179	121	55	30
June	179	134	36	31
July	180	113	32	30
August	153	162	30	31
September	183	150	53	35
October	150	127	29	0
November	178	91	30	29
December	174	96	36	30

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 2020, 31,006 m^3 of water was drawn from the municipal water system.

4.2. Electricity

During 2020, the turbine generated 125,819 MWh of electricity of which 107,243 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 (O_2), sulphur dioxide (SO_2), nitrogen oxides (NO_x), ammonia (NH_3), 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 (H_2O) and opacity. Analysis sampling points are located so that the efficiency of the air pollution control system can be closely monitored. Flue gas is analysed prior to entering the Air Pollution Control (APC) evaporative cooler (economizer outlet) and in the APC outlet / ID (induced draft) Fan inlet duct for each Boiler. Records of daily minimum, maximum and average readings for CO (4-hour average), O_2, combustion and baghouse temperature (one-hour average), organic matter (10-minute average), SO_2, 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 evaluations were completed July 14th and July 15th, 2020 for Boiler 1 and Boiler 2 respectively. The RATA was completed under the Facility's normal operating conditions of approximately 100% of the full thermal capacity. Based on the RATA and associated system bias evaluation, all parameters met the performance specifications criteria of the ECA and *Protocols and*

Performance Specifications for Continuous Monitoring of Gaseous Emissions from Thermal Power Generation (EPS 1/PG/7).

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	34	10
Opacity	2-hour rolling	%	5	0	1	0
Opacity	6-minute rolling	%	10	0	3	0
Oxygen	1-hour	%	≥6	7	12	8
Sulphur Dioxide	24-hour	mg / Rm^3	35	0	10	1
Nitrogen Oxides	24-hour	mg / Rm^3	121	100	117	110
Hydrogen Chloride	24-hour	mg / Rm^3	9	0	7	4
Combustion Temperature	1-hour	ºC	≥1000	1023	1355	1218
Baghouse Temperature	1-hour	ºC	>120 and <185	132	156	142
Organic Matter (THC)	10-minute	mg / Rm^3	NA			

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	0
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	ºC	≥1000	1014	1436	1302
Baghouse Temperature	1-hour	ºC	>120 and <185	131	159	143
Organic Matter (THC)	10-minute	mg / Rm^3	NA			

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 2020 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	97	97	97	97	100	97	100
Quarter 2	99	99	99	99	99	100	99	100
Quarter 3	100	99	99	99	99	100	99	100
Quarter 4	100	100	100	100	100	100	100	100

Boiler 2	O_2e	SO_2	HCl	NO_x	CO	Opacity	THC	Combustion Temperature
Quarter 1	100	99	99	99	99	100	99	100
Quarter 2	100	99	99	99	99	100	99	100
Quarter 3	100	100	100	100	100	100	99	100
Quarter 4	100	99	99	99	99	100	99	100

Note: O_2e means O_2 measured at the Economizer Outlet.

5.3. Performance Requirements (Schedule C) - Excursions

During 2020, there were no excursions to Performance Requirements as listed in Schedule C.

5.4. Performance Requirements (Condition 6) Excursions

During 2020, 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 measure emissions resulting from operating the Facility under conditions which yield the worst-case emissions within the approved operating range of the Facility. 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, 2020 to satisfy the requirement put forth by Durham Region Council to perform emission testing twice per year.

Voluntary source testing was performed on the 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	1.14	1.04
Cadmium	7 µg / Rm^3	<0.056	0.11
Lead	50 µg / Rm^3	0.55	0.61
Mercury	15 µg / Rm^3	0.13	0.10
Dioxins and Furans	60 pg / Rm^3	<1.82	<2.53
Organic Matter	50 ppmdv	0.2	1.7

Parameter	Limit	Boiler 1	Boiler 2
Hydrochloric Acid	9 mg / Rm^3	4.5	5.5
Sulphur Dioxide	35 mg / Rm^3	0	0
Nitrogen Dioxide	121 mg / Rm^3	109	110
Carbon Monoxide	40 mg / Rm^3	15.2	11.4

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. Point of impingement concentrations (maximum ground level values) were calculated using CALPUFF Dispersion Model Version 6.263 and were well below the allowable limits 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 9th to November 12th, 2020 to satisfy the requirements of ECA Condition 7(1).

Compliance source testing was performed on the 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	9 mg / Rm^3	2.60	2.00
Cadmium	7 µg / Rm^3	0.075	0.056
Lead	50 µg / Rm^3	0.37	0.34
Mercury	15 µg / Rm^3	0.34	<0.045

Parameter	Limit	Boiler 1	Boiler 2
Dioxins and Furans	60 pg / Rm^3	<28.7	<7.26
Organic Matter	50 ppmdv	0.5	1.1
Hydrochloric Acid	9 mg / Rm^3	3.8	3.2
Sulphur Dioxide	35 mg / Rm^3	0.1	0.1
Nitrogen Dioxide	121 mg / Rm^3	110	110
Carbon Monoxide	40 mg / Rm^3	11.4	14.1

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. Point of impingement concentrations were calculated using CALPUFF Dispersion Model Version 6.263 and were well below the allowable limits for all contaminants. Refer to **Appendix 4**.

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

The long-term Dioxin and Furan sampling systems, referred to as the AMESA (Adsorption Method for the Sampling of dioxins and furans) samplers, were installed as required by ECA Condition 7(3)(a). During 2020, these AMESA samplers were operated to collect additional validation data during short-term sampling periods as well as to collect data for performance evaluation during long term sampling (+/- 28 day periods) as DYEC operations allow.

On June 15th to June 18th and November 9th to November 12th, the DYEC conducted their annual Voluntary and Compliance Source Testing, respectively. As part of the testing scopes, sampling was performed for Dioxin and Furans (commonly called SVOC or Semi-Volatile Organic Compounds) using Reference Method Environment Canada Method EPS 1/RM/2. In accordance with the 2018 AMESA long Term Sampling System Work Plan, the AMESA method was evaluated by operating the AMESA concurrently with the above noted reference method sampling. This entailed completing an AMESA sampling run

simultaneous to the three reference method sampling runs performed on each boiler. This allowed for the comparison of the average of the three reference method runs, to the single AMESA sampling run for each Boiler. A summary of this AMESA evaluation data for Boiler 1 and Boiler 2 is provided below in **Table 11** The deviation of AMESA results to the reference method fell short of the evaluation criteria suggested by the BSI CEN/TS 1948-5 Standard of (+/-) 100% on Boiler 1, however, Boiler 2 met the evaluation criteria reference. This variability demonstrates the AMESA data cannot replace reference data but may be of sufficient quality for trending analyses as envisioned by the ECA.

Table 11: AMESA Results in Comparison to Reference Method

Voluntary Source Test	**Boiler 1** [(a)]	**Boiler 2** [(a)]
Reference Method Mean	<1.82	<2.53
AMESA Monitor	4.48	3.13
Deviation Percentage (%)[(b)]	146	24
Compliance Source Test	**Boiler 1**	**Boiler 2**
Reference Method Mean	<28.7	<7.26
AMESA Monitor	6.51	4.83
Deviation Percentage (%)[(b)]	340	50

Notes:

[(a)] pgTEQ/Rm^3@11% O_2 : NATO / CCMS (1989) toxicity equivalency factors with full detection limit.

[(b)] Calculated using the Dry Adjusted TEQ Concentration data (Deviation = [(RM-AMESA) / RM]*100), absolute value.

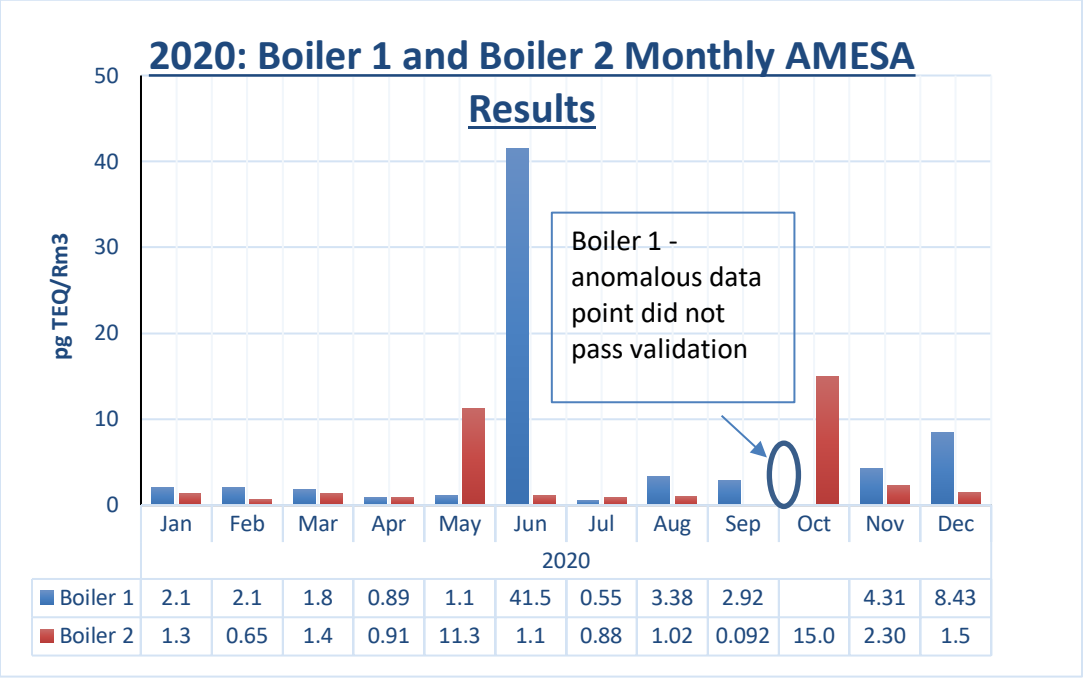
To properly track trends in APC equipment performance, a 12-month rolling average will be calculated using valid data points. The Level of Quantification (LoQ) or the lowest concentration that can be accurately measured using sensitive but routine sampling and analytical methods is 32 pgTEQ/Rm^3 @11%O_2. To ensure valid data points are used in the calculation of a rolling average, a data point will be assessed if it falls outside of the established Target Range threshold of greater than 100% of the LoQ, i.e. 32 + 32 = 64

pgTEQ/Rm^3 @ 11%O_2. The suspected anomalous data point will be subjected to a data validation procedure before accepting or rejecting the data point.

In the event a 12-month rolling average exceeds 100% of the LoQ (64 pgTEQ/Rm^3 @11%O_2), operation of the Boiler and APC equipment shall be verified in conformance with the principles of the 2016 Abatement Plan.

Currently only one year of data is available since the completion of the 2018 AMESA Work Plan tasks. As a result, the following monthly averages are presented below as opposed to 12-month rolling averages. The monthly AMESA value for Boiler 1 in October 2020 was identified as an anomalous data point upon data validation and removed. Systemic bias introduced by AMESA malfunctions on two separate occasions resulted in sampling of flue gas during unsteady states. On October 14th to October 15, 2020 the AMESA chiller was out of service however the AMESA continued to sample gas instead of instantaneously going into break mode. Subsequent to that, on October 26th, 2020 the AMESA incorrectly resumed operation during non-isokinetic conditions.

Twelve (12) month rolling averages will be presented in future annual reports to better identify and evaluate trends in facility performance.



The superior level of compliance (well below the LoQ) contributes significantly to the difficulty of establishing a correlation between the compliance test results and the results measured by the AMESA system to BSI CEN/TS 1948-5 standards.

Measurements obtained from the AMESA sampler, whether from short term or long-term sampling periods, are not used for verifying compliance with the approval limit for dioxins and furans in conformance with “Schedule C” of the ECA.

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. The 2018 AMESA Long Term Sampling System Work Plan has resulted in sufficient improvement to demonstrate some confidence in the AMESA to produce data that is appropriate for trending purposes, knowing that anomalous data points will present themselves on occasions. The APC system has performed well in 2020. All source tests conducted, both Voluntary and Compliance, demonstrated full compliance with all ECA Performance Requirements (Schedule C). These results are presented in **Section 5.5** of the Annual report. Continuous emission data collected throughout 2020 also demonstrated 100% compliance with ECA Performance Requirements on a real time basis and is summarized in **Section 5.1** of this Annual Report.

5.6.1. Isokinetic Testing

During the Compliance Source Test in November, isokinetic tests were performed in accordance with the AMESA Workplan 2018. This testing is performed to compare the velocity of the gas in the stack to the velocity of the gas entering the AMESA probe nozzle tip. The average velocity measured during six semi-volatile organic compounds (SVOC) tests was compared to the velocity recorded by the AMESA Dioxin and Furan sampling monitor for approximately the same time period for both Boiler 1 and Boiler 2.

This velocity comparison demonstrated that the AMESA system continues to collect samples in conformance with isokinetic standards. The isokinetic ratio for Boiler 1 and Boiler 2 was determined to be 107.3% and 99.0% respectively, well within the required range of 95 to 115%.

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 Courtice Water Pollution Control Plant (Courtice 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)	• Wind speed and direction (@20 metres) • Ambient temperature • Relative humidity • Rainfall • Barometric Pressure	• Sulfur Dioxide (SO_2) • Nitrogen Dioxide (NO_2) • Particulate Matter ($PM_{2.5}$)	• Metals • Total Suspended Particulate Matter (TSP) • Polycyclic Aromatic Hydrocarbons (PAH's) • Dioxins and Furans
Downwind (Baseline and Rundle Road)	• Wind speed and direction (@10 metres) • Ambient temperature • Relative humidity • Rainfall	• Sulfur Dioxide (SO_2) • Nitrogen Dioxide (NO_2) • Particulate Matter ($PM_{2.5}$)	• 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 2020 Annual Ambient Air Monitoring report is due to the MECP by May 15th, 2020. 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	1
	Sulphur Dioxide 10 minute	1	–
	Sulphur Dioxide 1 hour	4	–
Q2	Benzo(a)pyrene	2	1
	Sulphur Dioxide 10 minute	20	8
	Sulphur Dioxide 1 hour	13	4
Q3	Benzo(a)pyrene	1	1
	Sulphur Dioxide 10 minute	2	1
	Sulphur Dioxide 1 hour	2	1
Q4	Benzo(a)pyrene	1	2
	Sulphur Dioxide 10 minute	1	–
	Sulphur Dioxide 1 hour	–	–

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 and it was determined that the elevated concentrations were unlikely the result of emissions from the DYEC.

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 2020. 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 19th, 2020. Results were documented in a Soils Testing Report dated October 20th, 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

2017-2020. Monitoring requirements will be reevaluated in 2021 in consultation with the MECP.

9.2. Groundwater Monitoring Results

Groundwater samples are collected annually in the fall through a series of dedicated on-site monitoring wells. In 2020, 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 2020 are interpreted to be attributed to the seasonal exfiltration of salt-impacted surface water from the East 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 2020 groundwater and surface water monitoring activities will be discussed in the pending groundwater and surface water annual report. This report, covering the 2020 monitoring period, will be submitted to the MECP by April 30th, 2021, 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 for 2020 will be included in the annual groundwater and surface water report with supporting documentation. If any amendments are recommended, they 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 2020 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	• Calibration of boiler combustion air flow venturi transmitter
Refuse Pit	• Groundwater monitoring
Grizzly and Residue Buildings	• Daily general inspections • Quarterly USEPA Method 22
Ammonia Tank	• Daily general inspections • Annual calibration of alarms
Cement and Pozzolan Silos	• Daily general inspections • Quarterly USEPA Method 22
Diesel Fueling Station	• Daily general visual inspections
Fire Pump Diesel Tanks	• Daily general visual inspections
Exterior Bottom and Fly Ash Conveyors	• Daily general inspections • Quarterly USEPA Method 22

Containment Enclosure	Periodic Inspection
Settling Basin	• 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 in 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 2020, 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.

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 28th, 2020. 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 1 to March 13	610 hours	Spring Major Outage
September 27 to October 5	394 hours	Fall Minor Outage
October 26	11 hours	Rupture Disk repair

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**.

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 2020 with potential to impact the environment.

12. Emergency Situations

There were no reportable spills to land, water or air during 2020.

There were no other emergency situations during 2020.

13. Complaints and Inquiries

The monitoring of complaints and inquiries is a requirement of the EA Condition 6 and the 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 number of the 2020 complaints and inquiries is listed in the **Table 16.**

Table 16: Complaint and Inquiry Summary

Year 2020	Durham	York	Covanta	Total
Complaints to DYEC directly	6	0	0	6
Complaints to Regional Councils	2	0	0	2
Inquiries to DYEC directly	27	0	0	27
Inquiries to Regional Councils	0	0	0	0

In conjunction with the local MECP Office, it was determined neither of the six (6) complaints received in 2020 were related to suspected emissions from the DYEC.

14. Energy from Waste Advisory Committee (EFWAC)

The Energy from Waste Advisory Committee (EFWAC) is a requirement of the EA Condition 8 and the ECA Condition 17. The committee was established in 2011 with membership outlined in the 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 2020 EFWAC Committee meeting is provided in **Table 17.**

Table 17: EFWAC Meeting Summary

EFWAC Meeting #	Date	Time	Agenda Topics
17	October 23, 2020	2:00-4:00 PM	• Durham York Energy Centre 2019 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 October 23, 2020 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 the Boiler 1 dioxin and furan source test exceedance in May 2016, there have been 9 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 to 2019, 2020 bottom and fly ash testing results continued to meet the definition of a solid non-hazardous material. 2020 marked the second triennial sampling program. Both bottom and fly ash were sampled for 5 days each in the fall. 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. The second quarter recorded many incidents of elevated sulphur dioxide results due to new Ambient Air Quality Criteria (AAQC) for sulphur dioxide implemented in 2020. This includes 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 2020 groundwater monitoring activities met 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 2020. Monitoring requirements will be re-evaluated in 2021 in consultation with the MECP.

Soil

The most recent soil testing event was carried out August 19th, 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

Complaints were received through Regional Council, the DYEC website and through direct communication. There was a reduction in the amount of both facility inquiries and complaints. Compared to 2019, complaints decreased by 50% and inquires decreased by 7% in 2020.

17. Recommendations for Improvement

17.1. Status of Recommendations from the 2019 Annual Report

Recommendations for 2020

1) Maintain ISO14001:2015 Environmental Management System certification

   Status: ISO14001:2015 Environmental Management System certification was granted on January 28th, 2018. The second ISO14001:2015 surveillance audit was completed on January 7th and 8th, 2020 without any non-conformances.

2) Continue to execute the AMESA Work Plan 2018.

   Status: The 2018 AMESA Long Term Sampling System Work Plan, dated November 14th, 2018 has concluded. Work Plan activities have resulted in sufficient improvement to demonstrate some confidence in the AMESA to produce data that is appropriate for trending purposes. See Section 5.6.

3) Continue to execute plans to improve overall (net) facility power production.

Status: The focus for 2019 was overall (net) facility power production, rather than only site power usage. Significant gains were achieved, in 2020 net energy recovery was 760 kWh/tonne MSW processed, compared to 2019 where net energy recovery was 703 kWh/tonne MSW processed.

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

   Status: Efforts during 2020 to reduce reagent consumption showed limited progress. Optimization will continue into 2021.

17.2. Recommendations for 2021

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

1) Continue to improve Facility Energy Recovery
2) Maintain ISO 14001:2015 Environmental Management System Certification
3) Continue to optimize facility operations to decrease reagent consumption while maintaining full compliance with all regulatory limits.
4) Optimize the demand for boiler feedwater treatment as it is energy and reagent intensive.

Appendix 1: MECP EA / ECA 2020 Report Submittals

Report Type	Report Name	Submission Date
Ambient Air Monitoring Reports per ECA 7(4)(b), EA 11.7, Operations Manual for AQ Monitoring in Ontario	2019 Ambient Air Q4 Report	February 14th, 2020
	2019 Ambient Air Annual Report	May 15th, 2020
	2020 Ambient Air Q1 Report	May 15th, 2020
	2020 Ambient Air Q2 Report	August 14th, 2020
	2020 Ambient Air Q3 Report	November 13th, 2020
	2020 Ambient Air Q4 Report	February 12th, 2021
Annual Report per ECA (15)(1)	2019 Annual Report	March 30th, 2020
Complaint and Inquiry Logs per ECA 10(1), 10(2), 14(7)	January Complaint & Inquiry Log	April 16th, 2020
	February Complaint & Inquiry Log	April 16th, 2020
	March Complaint & Inquiry Log	April 16th, 2020
	April Complaint & Inquiry Log	July 28th, 2020
	May Complaint & Inquiry Log	July 28th, 2020
	June Complaint & Inquiry Log	September 30th, 2020
	July Complaint & Inquiry Log	September 30th, 2020
	August Complaint & Inquiry Log	September 30th, 2020
	September Complaint & Inquiry Log	December 15th, 2020
	October Complaint & Inquiry Log	December 15th, 2020
	November Complaint & Inquiry Log	February 11th, 2021
	December Complaint & Inquiry Log	February 11th, 2021
Compliance Monitoring Report per EA 5.4	2020 Compliance Monitoring Report	October 29th, 2020
Groundwater and Surface Water Monitoring Reports per ECA 7(14)(b), EA 20.8	2019 Annual Groundwater and Surface Water Reports	April 27th, 2020

Report Type	Report Name	Submission Date
Noise Monitoring and Mitigation Reports- Acoustic Audit Reports per Noise Monitoring Plan	2020 Acoustic Audit	N/A
Odour Management and Mitigation Monitoring Report per ECA 8(9)(b)	2020 Odour Management and Mitigation Monitoring Report	November 25th, 2020
Soil Testing Report per ECA 15(4)	2020 Soil Test Report	October 26th, 2020
Source Test per ECA 7(1), Schedule E(1), E(7) and Schedule E(8) respectively	2020 Source Test Report	January 19th, 2021
	Source Test Pre-test Plan	September 8th, 2020
	Notification to MECP 15 days prior to Source test	October 14th, 2020
Third Party Audit Report per ECA 15(3), EA 16	2019 Third Party Operations Audit	October 2nd, 2020
Waste Diversion Monitoring Report per EA 10.4	2019 Annual Waste Diversion Reports	September 30th, 2020 & October 23rd, 2020

Appendix 2: Bottom and Fly Ash Sampling

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DURHAM YORK ENERGY CENTRE
SUMMARY OF LABORATORY RESULTS:
BOTTOM ASH - LOSS ON IGNITION (ASTMD5468)
Q4 2017 CASTP to Q3 2020

SAMPLE ID NUMBER	SAMPLE DATE	MOISTURE TOTAL (%)	LOSS ON IGNITION (Wt %)
DYEC/BA/171111/SGS-1	13-Nov-17	15.36	< 0.58
DYEC/BA/171111/SGS-2	13-Nov-17	16.03	0.96
DYEC/BA/171111/SGS-3	13-Nov-17	15.78	< 0.58
DYEC/BA/171111/SGS-4	13-Nov-17	15.23	< 0.58
DYEC/BA/171112/SGS-1	13-Nov-17	14.61	< 0.59
DYEC/BA/171112/SGS-2	13-Nov-17	14.73	1.23
DYEC/BA/171112/SGS-3	13-Nov-17	15.03	< 0.59
DYEC/BA/171112/SGS-4	13-Nov-17	15.48	< 0.58
DYEC/BA/171113/SGS-1	14-Nov-17	12.11	0.82
DYEC/BA/171113/SGS-2	14-Nov-17	12.60	< 0.60
DYEC/BA/171113/SGS-3	14-Nov-17	15.06	< 0.59
DYEC/BA/171113/SGS-4	14-Nov-17	12.21	< 0.61
DYEC/BA/171114/SGS-1	15-Nov-17	13.86	< 0.59
DYEC/BA/171114/SGS-2	15-Nov-17	14.05	< 0.59
DYEC/BA/171114/SGS-3	15-Nov-17	14.40	< 0.59
DYEC/BA/171114/SGS-4	15-Nov-17	13.55	< 0.60
DYEC/BA/171115/SGS-1	16-Nov-17	13.65	< 0.60
DYEC/BA/171115/SGS-2	16-Nov-17	13.15	0.63
DYEC/BA/171115/SGS-3	16-Nov-17	13.89	0.99
DYEC/BA/171115/SGS-4	16-Nov-17	13.41	< 0.60
DYEC/BA/180131/SGS-1	1-Feb-18	16.65	< 0.57
DYEC/BA/180131/SGS-2	1-Feb-18	16.56	< 0.58
DYEC/BA/180131/SGS-3	1-Feb-18	16.39	< 0.58
DYEC/BA/180131/SGS-4	1-Feb-18	16.59	< 0.58
DYEC/BA/180515/1SGS	17-May-18	13.07	0.31
DYEC/BA/180515/2SGS	17-May-18	12.78	0.35
DYEC/BA/180515/3SGS	17-May-18	13.06	0.38
DYEC/BA/180515/4SGS	17-May-18	12.64	0.77
DYEC/BA/180717/SGS-1	18-Jul-18	12.99	< 0.60
DYEC/BA/180717/SGS-2	18-Jul-18	10.65	< 0.62
DYEC/BA/180717/SGS-3	18-Jul-18	10.45	< 0.62
DYEC/BA/180717/SGS-4	18-Jul-18	10.63	< 0.62
DYEC/BA/181110/SGS-1	13-Nov-18	17.69	< 0.57
DYEC/BA/181110/SGS-2	13-Nov-18	17.56	< 0.57
DYEC/BA/181110/SGS-3	13-Nov-18	17.58	< 0.57
DYEC/BA/181110/SGS-4	13-Nov-18	17.74	< 0.57

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DURHAM YORK ENERGY CENTRE
SUMMARY OF LABORATORY RESULTS:
BOTTOM ASH - LOSS ON IGNITION (ASTMD5468)
Q4 2017 CASTP to Q3 2020

SAMPLE ID NUMBER	SAMPLE DATE	MOISTURE TOTAL (%)	LOSS ON IGNITION (Wt %)
DYEC/BA/190205/SGS-1		23.43	0.13
DYEC/BA/190205/SGS-2		23.32	0.57
DYEC/BA/190205/SGS-3		23.55	0.73
DYEC/BA/190205/SGS-4		23.10	0.38
DYEC/BA/190514/SGS-1		13.19	0.90
DYEC/BA/190514/SGS-2		13.08	0.76
DYEC/BA/190514/SGS-3		13.11	0.60
DYEC/BA/190514/SGS-4		13.02	0.43
DYEC/BA/190716/SGS-1		12.00	0.68
DYEC/BA/190716/SGS-2		11.98	0.63
DYEC/BA/190716/SGS-3		12.19	0.62
DYEC/BA/190716/SGS-4	16-Jul-19	11.84	0.66
DYEC/BA/191105/SGS-1	6-Nov-19	15.69	1.59
DYEC/BA/191105/SGS-2	6-Nov-19	15.58	1.57
DYEC/BA/191105/SGS-3	6-Nov-19	15.84	2.41
DYEC/BA/191105/SGS-4	6-Nov-19	15.80	1.77
DYEC/BA/200204/SGS-1	4-Feb-20	16.94	1.03
DYEC/BA/200204/SGS-2	4-Feb-20	17.04	1.18
DYEC/BA/200204/SGS-3	4-Feb-20	17.12	0.83
DYEC/BA/200204/SGS-4	4-Feb-20	17.09	1.06
DYEC/BA/200602/SGS-1	2-Jun-20	12.58	1.92
DYEC/BA/200602/SGS-2	2-Jun-20	12.35	1.48
DYEC/BA/200602/SGS-3	2-Jun-20	12.43	1.13
DYEC/BA/200602/SGS-4	2-Jun-20	12.43	0.51
DYEC/BA/200728/SGS-1	28-Jul-20	13.20	1.42
DYEC/BA/200728/SGS-2	28-Jul-20	13.32	< 0.69
DYEC/BA/200728/SGS-3	28-Jul-20	13.49	< 0.69
DYEC/BA/200728/SGS-4	28-Jul-20	13.25	0.35

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DURHAM YORK ENERGY CENTRE
SUMMARY OF LABORATORY RESULTS:
BOTTOM ASH - LOSS ON IGNITION (ASTMD5468)
Q4 2017 CASTP to Q3 2020

CONSOLIDATED COMPOSITE SAMPLE STATISTICAL RESULTS	
NUMBER OF SAMPLES	64
DEGREES OF FREEDOM	63
SAMPLE MEAN (XBAR)	0.77
SAMPLE VARIANCE (S^2)	0.17
STANDARD DEVIATION (S)	0.41
STD ERROR (S XBAR)	0.05
80% CI Upper Limit (actual)	**0.83**
MAXIMUM	2.41
MINIMUM	0.13
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.

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DURHAM YORK ENERGY CENTRE

SUMMARY OF LABORATORY RESULTS:

BOTTOM ASH - LOSS ON IGNITION (ASTMD5468)

2020

SAMPLE ID NUMBER	SAMPLE DATE	MOISTURE TOTAL (%)	LOSS ON IGNITION (Wt %)
DYEC/BA/200204/SGS-1	4-Feb-20	16.94	1.03
DYEC/BA/200204/SGS-2	4-Feb-20	17.04	1.18
DYEC/BA/200204/SGS-3	4-Feb-20	17.12	0.83
DYEC/BA/200204/SGS-4	4-Feb-20	17.09	1.06
DYEC/BA/200602/SGS-1	2-Jun-20	12.58	1.92
DYEC/BA/200602/SGS-2	2-Jun-20	12.35	1.48
DYEC/BA/200602/SGS-3	2-Jun-20	12.43	1.13
DYEC/BA/200602/SGS-4	2-Jun-20	12.43	0.51
DYEC/BA/200728/SGS-1	28-Jul-20	13.20	1.42
DYEC/BA/200728/SGS-2	28-Jul-20	13.32	< 0.60
DYEC/BA/200728/SGS-3	28-Jul-20	13.49	< 0.60
DYEC/BA/200728/SGS-4	28-Jul-20	13.25	0.35
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-20	14.23	0.92
DYEC/BA/201025/SGS-2	25-Oct-20	14.14	0.99
DYEC/BA/201025/SGS-3	25-Oct-20	13.82	0.95
DYEC/BA/201025/SGS-4	25-Oct-20	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/2001029/SGS-1	29-Oct-20	13.82	< 0.59
DYEC/BA/201029/SGS-2	29-Oct-20	13.87	< 0.59
DYEC/BA/201029SGS-3	29-Oct-20	13.71	< 0.60
DYEC/BA/201029/SGS-4	29-Oct-20	13.83	< 0.59

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DURHAM YORK ENERGY CENTRE
SUMMARY OF LABORATORY RESULTS:
BOTTOM ASH - LOSS ON IGNITION (ASTMD5468)
2020

CONSOLIDATED COMPOSITE SAMPLE STATISTICAL RESULTS	
NUMBER OF SAMPLES	32
DEGREES OF FREEDOM	31
SAMPLE MEAN (XBAR)	0.87
SAMPLE VARIANCE (S^2)	0.13
STANDARD DEVIATION (S)	0.37
STD ERROR (S XBAR)	0.06
80% CI Upper Limit (actual)	**0.96**
MAXIMUM	1.92
MINIMUM	0.35
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.

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Durham York Energy Centre
Summary of Plant Operating Conditions
Bottom and Fly Ash Sampling - 2020

2020	Scalehouse Record of Waste Received (tonnes)	Waste Processed (tonnes)	Combustion Temperature (avg °C)	Combustion O_2 Level (avg %)	Carbon Monoxide Level (4 hour - mg/Rm^3 @11% O_2 avg)	Opacity (avg %)	Lime Use (kg)	Carbon Use (kg)	Ammonia Use (L)	Generated Ash (tonnes)
Q1 - Q3 2020 Bottom Ash										
Q1 - 4-Feb-20	641	376	1,307	8	5	0	7,266	254	1,076	51
Q2 - 2-Jun-20	563	424	1,245	8	12	1	8,419	246	1,238	30
Q3 - 28-Jul-20	576	429	1,287	8	11	0	8,319	253	1,315	81
Q4 2020 Bottom Ash										
Day 1 - 24-Oct-20	0	418	1,234	9	12	0.5	8,252	255	1,320	121
Day 2 - 25-Oct-20	0	403	1,240	9	14	0.5	7,861	262	1,100	86
Day 3 - 27-Oct-20	651	329	1,199	9	19	0.5	7,550	262	1,054	68
Day 4 - 28-Oct-20	528	395	1,222	9	22	0.5	7,575	262	1302	60
Day 5 - 29-Oct-20	521	412	1,231	9	20	0.5	8,158	264	1,296	95
Q4 2020 Fly Ash										
Day 1 - 21-Nov-20	0	390	1,275	9	10	0	8,332	255	1,401	29
Day 2 - 22-Nov-20	0	377	1,278	9	9	0	7,944	263	1,291	58
Day 3 - 23-Nov-20	636	404	1,274	9	11	0	8,475	259	1,312	34
Day 4 - 24-Nov-20	738	419	1,270	9	12	0	8,302	263	1,280	46
Day 5 - 25-Nov-20	706	427	1,255	8	13	0	8,170	259	1,301	43

Appendix 3: Voluntary Source Test

Covanta Durham York Renewable Energy Limited Partnership, Durham York Energy Centre, 2020 Voluntary Compliance Emission Testing Program

Executive Summary

CalPuff Modelling for June 2020 Voluntary Source Testing at Durham York Energy Centre (Emission Summary Table)

EXECUTIVE SUMMARY

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, 2020. The voluntary emission testing program was performed at the request of the Regions of Durham and York. The current test program is the fifth 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

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 2019, 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, 2020) 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, 2020 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)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1212	-
Steam (tonnes/day)*	-	-	-	807	-
MSW Combusted (tonnes/day)*	-	-	-	190	-
NO_X Reagent Injection Rate (liters/day)*	-	-	-	488	-
Carbon Injection (kg/day)*	-	-	-	126	-
Lime Injection (kg/day)*	-	-	-	4264	-
Filterable Particulate (mg/Rm^3) (1)	1.22	1.49	0.72	1.14	9
PM_{10} with Condensable (mg/Rm^3) (1)	<4.35	<11.4	<3.98	<6.56	-
$PM_{2.5}$ with Condensable (mg/Rm^3) (1)	<3.93	<10.9	<3.49	<6.11	-
Hydrogen Fluoride (mg/Rm^3) (1)	<0.11	<0.10	<0.11	<0.11	-
Ammonia (mg/Rm^3) (1)	0.62	0.64	0.53	0.60	-
Cadmium (µg/Rm^3) (1)	0.029	0.12	<0.022	<0.056	7
Lead (µg/Rm^3) (1)	0.43	0.76	0.47	0.55	50
Mercury (µg/Rm^3) (1)	0.19	0.090	0.11	0.13	15
Antimony (µg/Rm^3) (1)	<0.044	0.050	<0.045	<0.046	-
Arsenic (µg/Rm^3) (1)	<0.044	<0.045	<0.045	<0.045	-
Barium (µg/Rm^3) (1)	2.25	2.76	2.53	2.51	-
Beryllium (µg/Rm^3) (1)	<0.044	<0.045	<0.045	<0.045	-
Chromium (µg/Rm^3) (1)	0.86	0.89	0.81	0.85	-
Cobalt (µg/Rm^3) (1)	<0.044	<0.045	<0.045	<0.045	-
Copper (µg/Rm^3) (1)	2.41	0.69	0.47	1.19	-
Molybdenum (µg/Rm^3) (1)	4.94	5.07	5.04	5.02	-
Nickel (µg/Rm^3) (1)	1.73	1.45	1.41	1.53	-
Selenium (µg/Rm^3) (1)	0.68	<0.23	<0.22	<0.38	-
Silver (µg/Rm^3) (1)	<0.044	<0.045	<0.045	<0.045	-
Thallium (µg/Rm^3) (1)	<0.044	<0.045	<0.045	<0.045	-
Vanadium (µg/Rm^3) (1)	<0.022	<0.023	<0.022	<0.022	-
Zinc (µg/Rm^3) (1)	3.79	4.53	3.49	3.93	-
Dioxins and Furans (pg TEQ/Rm^3) (3)	<1.77	<1.70	<1.99	<1.82	60
Total Chlorobenzenes (ng/Rm^3) (1)	<636	<464	<582	<560	-
Total Chlorophenols (ng/Rm^3) (1)	<163	<164	<159	<162	-
Total PAHs (ng/Rm^3) (1)	<1102	<504	<731	<779	-
VOCs (µg/Rm^3) (1)	<117	<149	<98.2	<121	-
Aldehydes (µg/Rm^3) (1)	<227	<317	<209	<251	-
Total VOCs (µg/Rm^3) (1) (4)	<344	<466	<307	<372	-
Quench Inlet Organic Matter (THC) (ppm, dry) (2)	0.1	0.3	0.2	0.2	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)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1300	-
Steam (tonnes/day)*	-	-	-	807	-
MSW Combusted (tonnes/day)*	-	-	-	194	-
NO_X Reagent Injection Rate (liters/day)*	-	-	-	631	-
Carbon Injection (kg/day)*	-	-	-	127	-
Lime Injection (kg/day)*	-	-	-	4185	-
Filterable Particulate (mg/Rm^3) (1)	0.99	0.73	1.41	1.04	9
PM_{10} with Condensable (mg/Rm^3) (1)	<3.61	<3.33	2.66	<3.20	-
$PM_{2.5}$ with Condensable (mg/Rm^3) (1)	<3.35	<3.19	2.46	<3.00	-
Hydrogen Fluoride (mg/Rm^3) (1)	<0.11	<0.11	<0.11	<0.11	-
Ammonia (mg/Rm^3) (1)	0.46	0.46	0.50	0.47	-
Cadmium (µg/Rm^3) (1)	0.084	0.055	0.19	0.11	7
Lead (µg/Rm^3) (1)	0.66	0.65	0.53	0.61	50
Mercury (µg/Rm^3) (1)	0.033	0.13	0.14	0.10	15
Antimony (µg/Rm^3) (1)	<0.044	0.021	0.062	<0.042	-
Arsenic (µg/Rm^3) (1)	<0.044	<0.043	<0.045	<0.044	-
Barium (µg/Rm^3) (1)	3.04	2.40	3.03	2.82	-
Beryllium (µg/Rm^3) (1)	<0.044	<0.043	<0.045	<0.044	-
Chromium (µg/Rm^3) (1)	0.95	0.91	1.04	0.97	-
Cobalt (µg/Rm^3) (1)	0.63	0.025	<0.045	<0.23	-
Copper (µg/Rm^3) (1)	2.03	1.01	0.60	1.21	-
Molybdenum (µg/Rm^3) (1)	5.07	4.58	5.11	4.92	-
Nickel (µg/Rm^3) (1)	1.73	1.59	1.40	1.57	-
Selenium (µg/Rm^3) (1)	<0.22	<0.21	<0.23	<0.22	-
Silver (µg/Rm^3) (1)	<0.044	<0.043	<0.045	<0.044	-
Thallium (µg/Rm^3) (1)	<0.044	<0.043	0.11	<0.065	-
Vanadium (µg/Rm^3) (1)	0.039	<0.021	<0.023	<0.028	-
Zinc (µg/Rm^3) (1)	5.64	4.90	7.91	6.15	-
Dioxins and Furans (pg TEQ/Rm^3) (3)	<2.14	<3.26	<2.19	<2.53	60
Total Chlorobenzenes (ng/Rm^3) (1)	<450	<443	<427	<440	-
Total Chlorophenols (ng/Rm^3) (1)	<190	<185	<247	<207	-
Total PAHs (ng/Rm^3) (1)	<810	<1090	<826	<909	-
VOCs (µg/Rm^3) (1)	<150	<164	<137	<150	-
Aldehydes (µg/Rm^3) (1)	<305	<291	<245	<281	-
Total VOCs (µg/Rm^3) (1) (4)	<455	<455	<382	<431	-
Quench Inlet Organic Matter (THC) (ppm, dry) (2)	3.1	1.4	0.7	1.7	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)	7.5	15.2	29.5	40
	Hydrogen Chloride (mg/Rm^3) (2)	4.2	4.5	4.9	9
	Nitrogen Oxides (mg/Rm^3) (2)	107	109	110	121
	Sulphur Dioxide (mg/Rm^3) (2)	0	0	0	35
Boiler No. 2	Carbon Monoxide (mg/Rm^3) (1)	7.5	11.4	19.3	40
	Hydrogen Chloride (mg/Rm^3) (2)	4.8	5.1	5.5	9
	Nitrogen Oxides (mg/Rm^3) (2)	108	109	110	121
	Sulphur Dioxide (mg/Rm^3) (2)	0	0	0	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 2020 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 805 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 B
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration Before Meteorological Anomaly Removal [ug/m³]	Maximum POI Concentration After Meteorological Anomaly Removal [ug/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	7.38E-07	Calpuff	7.56E-07	7.15E-07	24-hour	35.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2,4 – Trichlorobenzene	120-82-1	4.58E-07	Calpuff	4.69E-07	4.44E-07	24-hour	400	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
1,2,4,5-Tetrachlorobenzene	95-94-3	1.08E-07	Calpuff	1.10E-07	1.04E-07	24-hour	1	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2-Dichlorobenzene	95-50-1	1.21E-06	Calpuff	2.36E-05	7.07E-06	1-hour	30500	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
2 – methylnaphthalene	91-57-6	1.33E-06	Calpuff	1.37E-06	1.29E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
2,3,4,6-Tetrachlorophenol	58-90-2	3.75E-07	Calpuff	3.85E-07	3.64E-07	24-hour	0.75	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4,6-Trichlorophenol	88-06-2	4.36E-07	Calpuff	4.46E-07	4.22E-07	24-hour	1.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4-Dichlorophenol	120-83-2	6.07E-07	Calpuff	6.22E-07	5.89E-07	24-hour	33.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
3-Methylcholanthrene	56-49-5	3.75E-07	Calpuff	3.85E-07	3.64E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus		Apr-18
7,12-Dimethylbenzo(a)anthracene	57-97-6	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus		Apr-18
Acenaphthene	83-32-9	1.08E-06	Calpuff	1.11E-06	1.05E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acenaphthylene	208-96-8	4.42E-07	Calpuff	4.53E-07	4.28E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acetaldehyde	75-07-0	6.91E-03	Calpuff	7.08E-03	6.69E-03	24-hour	500	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acetaldehyde	75-07-0	6.91E-03	Calpuff	7.08E-03	6.69E-03	24-hour	5000	—	Sch. 6	URT	—	<1%	—	
Acrolein	107-02-8	9.60E-05	Calpuff	9.84E-05	9.30E-05	24-hour	0.4	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	9.60E-05	Calpuff	1.87E-03	5.62E-04	1-hour	4.5	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	9.60E-05	Calpuff	9.84E-05	9.30E-05	24-hour	4	Health	Sch. 6	URT	—	<1%	—	Apr-18
Ammonia	7664-41-7	2.04E-02	Calpuff	2.09E-02	1.97E-02	24-hour	100	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Ammonia	7664-41-7	2.04E-02	Calpuff	2.09E-02	1.97E-02	24-hour	1000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Anthracene	120-12-7	8.51E-08	Calpuff	8.72E-08	8.24E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Antimony	7440-36-0	1.69E-06	Calpuff	1.73E-06	1.64E-06	24-hour	25	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Arsenic	7440-38-2	1.70E-06	Calpuff	1.74E-06	1.65E-06	24-hour	0.3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Barium	7440-39-3	1.02E-04	Calpuff	1.05E-04	9.90E-05	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Benzene	71-43-2	8.69E-05	Calpuff	2.79E-06	2.79E-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	8.69E-05	Calpuff	8.90E-05	8.42E-05	24-hour	100	Health	Sch. 6	URT/DAV	B1	<1%	—	
Benzene	71-43-2	8.69E-05	Calpuff	2.79E-06	2.79E-06	Annual	4.5	Health	—	AAV	—	<1%	—	Apr-18
Benzo(a)anthracene	56-55-3	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)fluorene	238-84-6	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)pyrene	50-32-8	7.51E-08	Calpuff	2.41E-09	2.41E-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	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.005	Health	Sch. 6	URT	—	<1%	—	Apr-18
Benzo(a)pyrene	50-32-8	7.51E-08	Calpuff	2.41E-09	2.41E-09	Annual	0.0001	Health	—	AAV	—	<1%	—	Apr-18
Benzo(b)fluoranthene	205-99-2	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(b)fluorene	243-17-4	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(e)pyrene	192-97-2	1.27E-07	Calpuff	1.30E-07	1.23E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(g,h,i)perylene	191-24-2	4.18E-07	Calpuff	4.29E-07	4.05E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(k)fluoranthene	207-08-9	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Beryllium	7440-41-7	1.70E-06	Calpuff	1.74E-06	1.65E-06	24-hour	0.01	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Biphenyl	92-51-3	1.76E-06	Calpuff	1.80E-06	1.70E-06	24-hour	175	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromodichloromethane	75-27-4	1.79E-05	Calpuff	1.83E-05	1.73E-05	24-hour	350	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromoform	75-25-2	1.53E-05	Calpuff	1.57E-05	1.48E-05	24-hour	55	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Bromomethane	74-83-9	1.38E-04	Calpuff	1.41E-04	1.33E-04	24-hour	1350	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Cadmium	7440-43-9	3.13E-06	Calpuff	3.21E-06	3.03E-06	24-hour	0.025	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Cadmium	7440-43-9	3.13E-06	Calpuff	3.21E-06	3.03E-06	24-hour	0.25	Health	Sch. 6	URT	—	<1%	—	Apr-18
Carbon Monoxide	630-08-0	4.94E-01	Calpuff	1.16E+01	3.47E+00	1/2-hour	6000	Health	Sch. 3	Standard	B1	<1%	Note 9	Apr-18
Carbon tetrachloride	56-23-5	1.63E-05	Calpuff	1.67E-05	1.58E-05	24-hour	2.4	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Carbon tetrachloride	56-23-5	1.63E-05	Calpuff	1.67E-05	1.58E-05	24-hour	24	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chlorobenzene	108-90-7	1.39E-05	Calpuff	2.71E-04	8.11E-05	1-hour	3500	Health	Sch. 3	Guideline	B1	<1%	Note 2, 3	
Chlorobenzene	108-90-7	1.39E-05	Calpuff	4.47E-04	1.34E-04	10-minute	4500	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	
Chloroform	67-66-3	2.50E-05	Calpuff	2.56E-05	2.42E-05	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Chloroform	67-66-3	2.50E-05	Calpuff	2.56E-05	2.42E-05	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chromium (hexavalent)	18540-29-9	3.49E-05	Calpuff	1.12E-06	1.12E-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	3.49E-05	Calpuff	3.57E-05	3.38E-05	24-hour	0.07	Health	Sch. 6	URT	—	<1%	—	
Chrysene	218-01-9	8.30E-08	Calpuff	8.51E-08	8.05E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Cobalt	7440-48-4	5.31E-06	Calpuff	5.44E-06	5.14E-06	24-hour	0.1	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Copper	7440-50-8	4.59E-05	Calpuff	4.71E-05	4.45E-05	24-hour	50	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Dibenzo(a,c)anthracene	215-58-7	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dibenzo(a,h)anthracene	53-70-3	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dichlorodifluoromethane	75-71-8	3.06E-05	Calpuff	3.13E-05	2.96E-05	24-hour	500000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Dichloroethene, 1,1 -	75-34-3	1.53E-05	Calpuff	1.57E-05	1.48E-05	24-hour	165	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloroethene, 1,1 -	75-34-3	1.53E-05	Calpuff	1.57E-05	1.48E-05	24-hour	1650	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dichloromethane	75-09-2	1.37E-03	Calpuff	1.40E-03	1.33E-03	24-hour	220	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloromethane	75-09-2	1.37E-03	Calpuff	1.40E-03	1.33E-03	24-hour	22000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dioxins, Furans and Dioxin- like PCBs	N/A	0.00009 µg TEQ/s	Calpuff	0.00009 pg TEQ/m³	0.00009 pg TEQ/m³	24-hour	0.1 pg TEQ/m³	Health	Sch. 3	Guideline	B1	<1%	Note 8, 8a, Table 1URT - Note 4, Table 4	Apr-18
Ethylbenzene	100-41-4	1.78E-04	Calpuff	1.83E-04	1.73E-04	24-hour	1000	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	1.78E-04	Calpuff	5.74E-03	1.72E-03	10-minute	1900	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	1.78E-04	Calpuff	1.83E-04	1.73E-04	24-hour	14000	Not Applicable	Sch. 6	URT	—	<1%	—	Apr-18
Ethylene Dibromide	106-93-4	3.06E-05	Calpuff	3.13E-05	2.96E-05	24-hour	3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Fluoranthene	206-44-0	4.35E-07	Calpuff	4.46E-07	4.22E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Fluorides	7664-39-3	4.08E-03	Calpuff	4.18E-03	3.95E-03	24-hour	0.86	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.08E-03	Calpuff	4.73E-04	4.73E-04	30-day	0.34	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.08E-03	Calpuff	4.18E-03	3.95E-03	24-hour	1.74	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.08E-03	Calpuff	4.73E-04	4.73E-04	30-day	0.69	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.08E-03	Calpuff	4.18E-03	3.95E-03	24-hour	3.44	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	4.08E-03	Calpuff	4.73E-04	4.73E-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 [ug/m³]	Maximum POI Concentration After Meeorological Anomaly Removal [ug/m³]	Averaging Period	MECP POI Limit [µg/m³]	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit [%]	Notes	Version of Date of ACB List
Fluorine	86-73-7	1.12E-05	Calpuff	1.15E-05	1.09E-05	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Formaldehyde	50-00-0	3.19E-03	Calpuff	3.27E-03	3.09E-03	24-hour	65	Odour & Irritation	Sch. 3	Standard	B1	<1%	—	Apr-18
Hexachlorobenzene	118-74-1	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.011	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Hydrogen Chloride	7647-01-0	1.84E-01	Calpuff	1.89E-01	1.78E-01	24-hour	20	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Hydrogen Chloride	7647-01-0	1.84E-01	Calpuff	1.89E-01	1.78E-01	24-hour	200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Indeno(1,2,3 – cd)pyrene	193-39-5	9.54E-08	Calpuff	9.77E-08	9.24E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Lead	7439-92-1	2.23E-05	Calpuff	2.29E-05	2.16E-05	24-hour	0.5	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Lead	7439-92-1	2.23E-05	Calpuff	2.59E-06	2.59E-06	30-day	0.2	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Lead	7439-92-1	2.23E-05	Calpuff	2.29E-05	2.16E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	Note 2URT - Note 4, Table 4	Apr-18
Mercury	7439-97-6	4.42E-06	Calpuff	4.53E-06	4.29E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Molybdenum	7439-98-7	1.90E-04	Calpuff	1.95E-04	1.84E-04	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Naphthalene	91-20-3	6.92E-06	Calpuff	7.09E-06	6.70E-06	24-hour	22.5	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Naphthalene	91-20-3	6.92E-06	Calpuff	2.23E-04	6.68E-05	10-minute	50	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Nickel	7440-02-0	5.94E-05	Calpuff	1.91E-06	1.91E-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	5.94E-05	Calpuff	6.09E-05	5.76E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	—	Apr-18
Nickel	7440-02-0	5.94E-05	Calpuff	1.91E-06	1.91E-06	Annual	0.4	Health	—	AAV	—	<1%	—	Apr-18
Nitrogen Oxides	10102-44-0	4.15E+00	Calpuff	4.25E+00	4.02E+00	24-hour	200	Health	Sch. 3	Standard	B1	2%	Notes 2, 17	Apr-18
Nitrogen Oxides	10102-44-0	4.15E+00	Calpuff	8.10E+01	2.43E+01	1-hour	400	Health	Sch. 3	Standard	B1	6%	Notes 2, 17	Apr-18
O-terphenyl	84-15-1	9.29E-08	Calpuff	9.52E-08	9.00E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	
PM_{10} (Condensable and Filterable)	N/A	1.81E-01	Calpuff	4.26E-01	4.16E-01	24-hour	50	—	—	AAQC	—	<1%	—	
PM_{10} (Filterable Only)	N/A	1.95E-02	Calpuff	2.00E-02	2.59E-01	24-hour	50	—	—	AAQC	—	<1%	—	
$PM_{2.5}$ (Condensable and Filterable)	N/A	1.70E-01	Calpuff	1.74E-01	4.04E-01	24-hour	30	—	—	AAQC	—	1%	—	
$PM_{2.5}$ (Filterable Only)	N/A	7.62E-03	Calpuff	7.81E-03	2.48E-01	24-hour	30	—	—	AAQC	—	<1%	—	
Pentachlorobenzene	608-93-5	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	80	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Pentachlorophenol	87-86-5	4.23E-07	Calpuff	4.33E-07	4.10E-07	24-hour	20	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Perylene	198-55-0	7.51E-08	Calpuff	7.70E-08	7.28E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Phenanthrene	85-01-8	1.92E-06	Calpuff	1.96E-06	1.86E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Pyrene	129-00-0	4.39E-07	Calpuff	4.50E-07	4.25E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Selenium	7782-49-2	1.14E-05	Calpuff	1.17E-05	1.10E-05	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Silver	7440-22-4	1.70E-06	Calpuff	1.74E-06	1.65E-06	24-hour	1	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Sulphur Dioxide	7446-09-5	0.00E+00	Calpuff	0.00E+00	0.00E+00	24-hour	275	Health	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023Note 2URT - Note 4, Table 4	Apr-18
Sulphur Dioxide	7446-09-5	0.00E+00	Calpuff	0.00E+00	0.00E+00	1-hour	690	Health	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023Note 2URT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	1.76E-05	Calpuff	1.80E-05	1.71E-05	24-hour	360	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	1.76E-05	Calpuff	1.80E-05	1.71E-05	24-hour	3600	Health	Sch. 6	URT	—	<1%	—	
Tetralin	119-64-2	1.09E-06	Calpuff	1.12E-06	1.05E-06	24-hour	151.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Thallium	7440-28-0	2.09E-06	Calpuff	2.15E-06	2.03E-06	24-hour	0.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Toluene	108-88-3	7.10E-04	Calpuff	7.28E-04	6.88E-04	24-hour	2000	Not Applicable	Sch. 3	Guideline	B1	<1%	To be updated - Note 5	Apr-18
Total Chromium (and compounds)	7440-47-3	3.49E-05	Calpuff	3.57E-05	3.38E-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	3.49E-05	Calpuff	3.57E-05	3.38E-05	24-hour	5	Health	Sch. 6	URT	—	<1%	—	Apr-18
Total Particulate Matter (Condensable and Filterable)	N/A	2.04E-01	Calpuff	2.09E-01	4.37E-01	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Total Particulate Matter (Filterable only)	N/A	2.04E-01	Calpuff	2.09E-01	4.37E-01	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Trichloroethane, 1,1,1 -	71-55-6	1.53E-05	Calpuff	1.57E-05	1.48E-05	24-hour	115000	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Trichloroethene	86-42-0	3.11E-05	Calpuff	3.19E-05	3.02E-05	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	1.76E-05	Calpuff	1.80E-05	1.71E-05	24-hour	12	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	1.76E-05	Calpuff	1.80E-05	1.71E-05	24-hour	1200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Trichlorofluoromethane	75-69-4	3.06E-05	Calpuff	3.13E-05	2.96E-05	24-hour	6000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Vanadium	7440-62-2	9.59E-07	Calpuff	9.83E-07	9.30E-07	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Vinyl chloride	75-01-4	3.06E-05	Calpuff	3.13E-05	2.96E-05	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Vinyl chloride	75-01-4	3.06E-05	Calpuff	3.13E-05	2.96E-05	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Xylenes, m-, p- and o-	1330-20-7	1.52E-03	Calpuff	1.56E-03	1.48E-03	24-hour	730	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	1.52E-03	Calpuff	4.91E-02	1.47E-02	10-minute	3000	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	1.52E-03	Calpuff	1.56E-03	1.48E-03	24-hour	7300	Not Applicable	Sch. 6	URT	—	<1%	—	Apr-18
Zinc	7440-66-6	1.93E-04	Calpuff	1.97E-04	1.87E-04	24-hour	120	Particulate	Sch. 3	Standard	B1	<1%	—	Apr-18

Appendix 4: Compliance Source Test

Covanta Durham York Renewable Energy Limited Partnership, Durham York Energy Centre 2020 Compliance Emission Testing in Accordance with Amended Environmental Compliance Approval (ECA) No. 7306-8FDKNX

Executive Summary

CalPuff Modelling for September 2020 Compliance Source Testing at Durham York Energy Centre (Emission Summary Table)

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 9 and November 12, 2020. 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 eleventh 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

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 (November 9 to November 12, 2020) 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 9, 2020 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)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1230	-
Steam (tonnes/day)*	-	-	-	806	-
MSW Combusted (tonnes/day)*	-	-	-	199	-
NO_X Reagent Injection Rate (liters/day)*	-	-	-	507	-
Carbon Injection (kg/day)*	-	-	-	133	-
Lime Injection (kg/day)*	-	-	-	4237	-
Filterable Particulate (mg/Rm^3) (1)	3.35	4.07	0.36	2.60	9
PM_{10} with Condensable (mg/Rm^3) (1)	<4.77	<5.15	<4.08	<4.67	-
$PM_{2.5}$ with Condensable (mg/Rm^3) (1)	<3.90	<4.95	<3.94	<4.26	-
Hydrogen Fluoride (mg/Rm^3) (1)	<0.097	<0.10	<0.11	<0.10	-
Ammonia (mg/Rm^3) (1)	0.55	0.67	0.61	0.61	-
Cadmium (µg/Rm^3) (1)	0.093	0.075	0.058	0.075	7
Lead (µg/Rm^3) (1)	0.48	0.34	0.29	0.37	50
Mercury (µg/Rm^3) (1)	0.55	0.35	0.13	0.34	15
Antimony (µg/Rm^3) (1)	0.092	0.046	<0.040	<0.059	-
Arsenic (µg/Rm^3) (1)	<0.046	<0.045	<0.040	<0.044	-
Barium (µg/Rm^3) (1)	1.55	1.38	1.81	1.58	-
Beryllium (µg/Rm^3) (1)	<0.046	<0.045	<0.040	<0.044	-
Chromium (µg/Rm^3) (1)	1.41	1.00	0.65	1.02	-
Cobalt (µg/Rm^3) (1)	<0.046	<0.045	0.069	<0.053	-
Copper (µg/Rm^3) (1)	5.25	5.22	5.16	5.21	-
Molybdenum (µg/Rm^3) (1)	5.60	5.34	4.79	5.24	-
Nickel (µg/Rm^3) (1)	1.31	2.34	0.97	1.54	-
Selenium (µg/Rm^3) (1)	1.33	1.84	<0.20	<1.12	-
Silver (µg/Rm^3) (1)	<0.046	<0.045	<0.040	<0.044	-
Thallium (µg/Rm^3) (1)	0.22	0.091	<0.040	<0.12	-
Vanadium (µg/Rm^3) (1)	<0.023	<0.023	<0.020	<0.022	-
Zinc (µg/Rm^3) (1)	8.23	5.17	4.52	5.97	-
Dioxins and Furans (pg TEQ/Rm^3) (3)	<31.2	<31.0	<23.8	<28.7	60
Total Chlorobenzenes (ng/Rm^3) (1)	<761	<942	<848	<850	-
Total Chlorophenols (ng/Rm^3) (1)	<178	<185	<175	<180	-
Total PAHs (ng/Rm^3) (1)	<200	<515	<219	<311	-
VOCs (µg/Rm^3) (1)	<308	<267	<305	<293	-
Aldehydes (µg/Rm^3) (1)	<0.080	<0.061	<0.079	<0.073	-
Total VOCs (µg/Rm^3) (1) (4)	<308	<267	<305	<293	-
Quench Inlet Organic Matter (THC) (ppm, dry) (2)	0.9	0.2	0.3	0.5	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)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1311	-
Steam (tonnes/day)*	-	-	-	805	-
MSW Combusted (tonnes/day)*	-	-	-	202	-
NO_X Reagent Injection Rate (liters/day)*	-	-	-	816	-
Carbon Injection (kg/day)*	-	-	-	126	-
Lime Injection (kg/day)*	-	-	-	4233	-
Filterable Particulate (mg/Rm^3) (1)	2.72	0.76	2.52	2.00	9
PM_{10} with Condensable (mg/Rm^3) (1)	<4.96	<5.40	<4.68	<5.01	-
$PM_{2.5}$ with Condensable (mg/Rm^3) (1)	<4.89	<5.27	<4.54	<4.90	-
Hydrogen Fluoride (mg/Rm^3) (1)	<0.10	<0.10	<0.10	<0.10	-
Ammonia (mg/Rm^3) (1)	0.73	0.65	0.60	0.66	-
Cadmium (µg/Rm^3) (1)	0.054	0.034	0.078	0.056	7
Lead (µg/Rm^3) (1)	0.34	0.32	0.36	0.34	50
Mercury (µg/Rm^3) (1)	0.058	<0.033	<0.045	<0.045	15
Antimony (µg/Rm^3) (1)	<0.038	0.051	<0.045	<0.044	-
Arsenic (µg/Rm^3) (1)	<0.038	<0.045	<0.045	<0.042	-
Barium (µg/Rm^3) (1)	0.22	1.93	2.18	1.44	-
Beryllium (µg/Rm^3) (1)	<0.038	<0.045	<0.045	<0.042	-
Chromium (µg/Rm^3) (1)	0.75	0.85	0.74	0.78	-
Cobalt (µg/Rm^3) (1)	<0.038	<0.045	0.066	<0.050	-
Copper (µg/Rm^3) (1)	5.00	5.11	5.14	5.09	-
Molybdenum (µg/Rm^3) (1)	4.55	5.33	5.20	5.03	-
Nickel (µg/Rm^3) (1)	0.66	0.83	1.11	0.87	-
Selenium (µg/Rm^3) (1)	<0.19	0.68	<0.22	<0.37	-
Silver (µg/Rm^3) (1)	<0.038	<0.045	<0.045	<0.042	-
Thallium (µg/Rm^3) (1)	<0.038	0.058	0.16	<0.084	-
Vanadium (µg/Rm^3) (1)	<0.019	<0.022	0.061	<0.034	-
Zinc (µg/Rm^3) (1)	3.75	5.36	5.67	4.93	-
Dioxins and Furans (pg TEQ/Rm^3) (3)	<6.90	<8.31	<6.59	<7.26	60
Total Chlorobenzenes (ng/Rm^3) (1)	<440	<436	<337	<404	-
Total Chlorophenols (ng/Rm^3) (1)	<206	<173	<215	<198	-
Total PAHs (ng/Rm^3) (1)	<229	<311	<227	<256	-
VOCs (µg/Rm^3) (1)	<317	<400	<345	<354	-
Aldehydes (µg/Rm^3) (1)	<0.11	<0.081	<0.10	<0.098	-
Total VOCs (µg/Rm^3) (1) (4)	<317	<400	<345	<354	-
Quench Inlet Organic Matter (THC) (ppm, dry) (2)	1.6	1.0	0.6	1.1	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	11.4	16.8	40
	Hydrogen Chloride (mg/Rm^3) (2)	3.4	3.8	4.4	9
	Nitrogen Oxides (mg/Rm^3) (2)	109	110	110	121
	Sulphur Dioxide (mg/Rm^3) (2)	0	0.1	0.5	35
Boiler No. 2	Carbon Monoxide (mg/Rm^3) (1)	10.8	14.1	20.8	40
	Hydrogen Chloride (mg/Rm^3) (2)	2.8	3.2	3.7	9
	Nitrogen Oxides (mg/Rm^3) (2)	110	110	111	121
	Sulphur Dioxide (mg/Rm^3) (2)	0	0.1	0.5	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 November 2020 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 803 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.

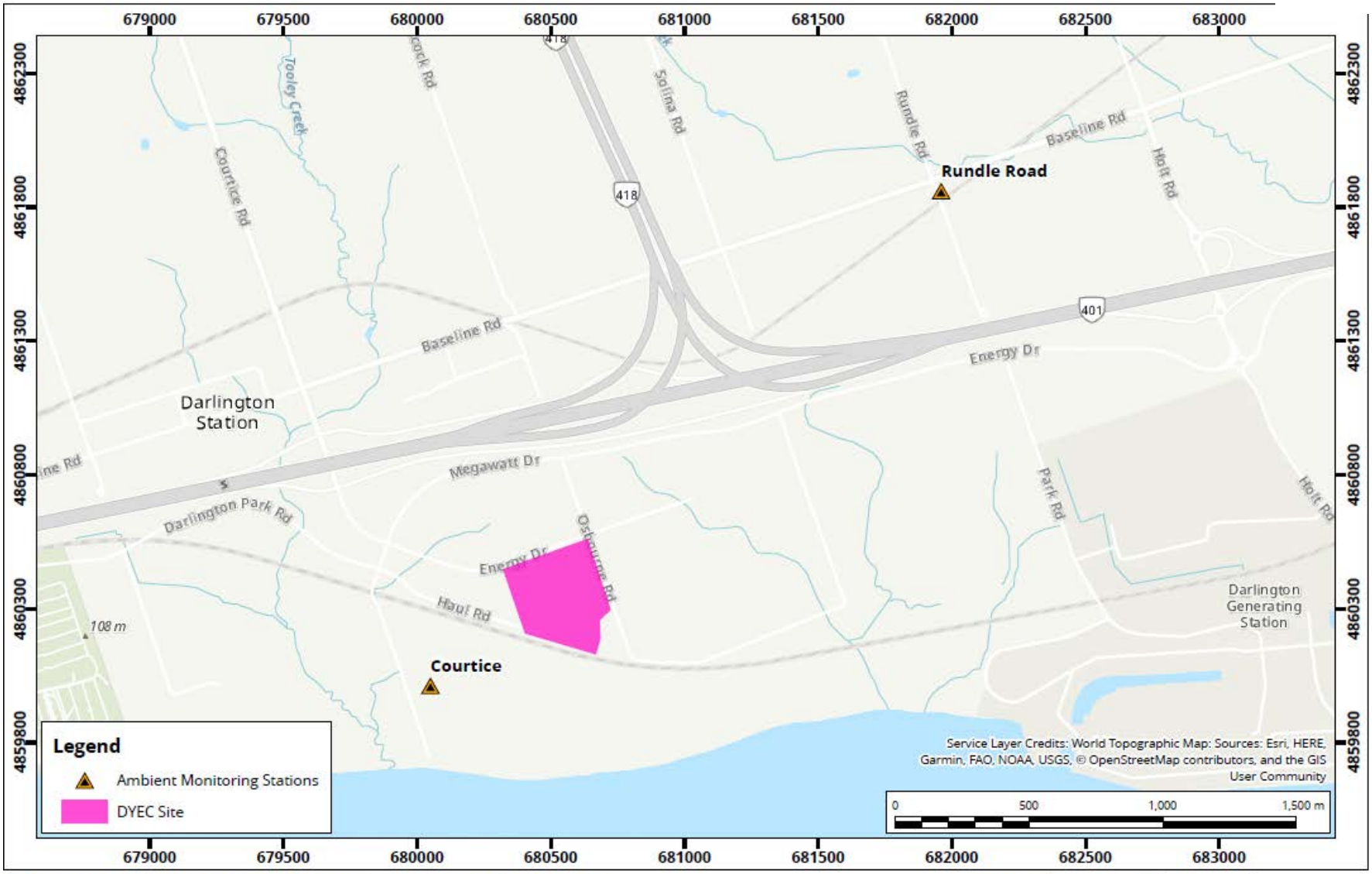
Appendix B
Emission Summary Table

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration Before Meteorological Anomaly Removal [µg/m³]	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	1.60E-07	Calpuff	1.64E-07	1.54E-07	24-hour	35.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2,4 – Trichlorobenzene	120-82-1	7.37E-07	Calpuff	7.53E-07	7.09E-07	24-hour	400	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
1,2,4,5-Tetrachlorobenzene	95-94-3	1.59E-07	Calpuff	1.62E-07	1.53E-07	24-hour	1	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
1,2-Dichlorobenzene	95-50-1	1.93E-06	Calpuff	3.74E-05	1.12E-05	1-hour	30500	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
2 – methylnaphthalene	91-57-6	2.92E-07	Calpuff	2.98E-07	2.81E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
2,3,4,6-Tetrachlorophenol	58-90-2	3.72E-07	Calpuff	3.80E-07	3.58E-07	24-hour	0.75	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4,6-Trichlorophenol	88-06-2	7.50E-07	Calpuff	7.66E-07	7.22E-07	24-hour	1.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
2,4-Dichlorophenol	120-83-2	3.93E-07	Calpuff	4.01E-07	3.78E-07	24-hour	33.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
3-Methylcholanthrene	56-49-5	3.72E-07	Calpuff	3.80E-07	3.58E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus		Apr-18
7,12-Dimethylbenzo(a)anthracene	57-97-6	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus		Apr-18
Acenaphthene	83-32-9	1.83E-07	Calpuff	1.87E-07	1.76E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acenaphthylene	208-96-8	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Acetaldehyde	75-07-0	1.63E-06	Calpuff	1.66E-06	1.57E-06	24-hour	500	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acetaldehyde	75-07-0	1.63E-06	Calpuff	1.66E-06	1.57E-06	24-hour	5000	—	Sch. 6	URT	—	<1%	—	
Acrolein	107-02-8	8.40E-08	Calpuff	8.58E-08	8.08E-08	24-hour	0.4	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	8.40E-08	Calpuff	1.63E-06	4.90E-07	1-hour	4.5	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Acrolein	107-02-8	8.40E-08	Calpuff	8.58E-08	8.08E-08	24-hour	4	Health	Sch. 6	URT	—	<1%	—	Apr-18
Ammonia	7664-41-7	2.47E-02	Calpuff	2.52E-02	2.38E-02	24-hour	100	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Ammonia	7664-41-7	2.47E-02	Calpuff	2.52E-02	2.38E-02	24-hour	1000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Anthracene	120-12-7	7.48E-08	Calpuff	7.64E-08	7.20E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Antimony	7440-36-0	2.00E-06	Calpuff	2.04E-06	1.93E-06	24-hour	25	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Arsenic	7440-38-2	1.67E-06	Calpuff	1.70E-06	1.60E-06	24-hour	0.3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Barium	7440-39-3	5.81E-05	Calpuff	5.94E-05	5.59E-05	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Benzene	71-43-2	2.68E-04	Calpuff	8.55E-06	8.55E-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	2.68E-04	Calpuff	2.74E-04	2.58E-04	24-hour	100	Health	Sch. 6	URT/DAV	B1	<1%	—	
Benzene	71-43-2	2.68E-04	Calpuff	8.55E-06	8.55E-06	Annual	4.5	Health	—	AAV	—	<1%	—	Apr-18
Benzo(a)anthracene	56-55-3	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)fluorene	238-84-6	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(a)pyrene	50-32-8	7.43E-08	Calpuff	2.37E-09	2.37E-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	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.005	Health	Sch. 6	URT	—	<1%	—	Apr-18
Benzo(a)pyrene	50-32-8	7.43E-08	Calpuff	2.37E-09	2.37E-09	Annual	0.0001	Health	—	AAV	—	<1%	—	Apr-18
Benzo(b)fluoranthene	205-99-2	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(b)fluorene	243-17-4	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(e)pyrene	192-97-2	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(g,h,i)perylene	191-24-2	2.69E-07	Calpuff	2.75E-07	2.59E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Benzo(k)fluoranthene	207-08-9	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Beryllium	7440-41-7	1.67E-06	Calpuff	1.70E-06	1.60E-06	24-hour	0.01	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Biphenyl	92-51-3	7.21E-07	Calpuff	7.36E-07	6.93E-07	24-hour	175	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromodichloromethane	75-27-4	4.36E-05	Calpuff	4.45E-05	4.20E-05	24-hour	350	Health	—	SL-JSL	B2	Below SL-JSL	—	Apr-18
Bromoform	75-25-2	1.31E-05	Calpuff	1.33E-05	1.26E-05	24-hour	55	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Bromomethane	74-83-9	1.18E-04	Calpuff	1.20E-04	1.13E-04	24-hour	1350	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Cadmium	7440-43-9	2.53E-06	Calpuff	2.58E-06	2.43E-06	24-hour	0.025	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Cadmium	7440-43-9	2.53E-06	Calpuff	2.58E-06	2.43E-06	24-hour	0.25	Health	Sch. 6	URT	—	<1%	—	Apr-18
Carbon Monoxide	630-08-0	4.79E-01	Calpuff	1.12E+01	3.36E+00	1/2-hour	6000	Health	Sch. 3	Standard	B1	<1%	Note 9	Apr-18
Carbon tetrachloride	56-23-5	1.21E-04	Calpuff	1.23E-04	1.16E-04	24-hour	2.4	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Carbon tetrachloride	56-23-5	1.21E-04	Calpuff	1.23E-04	1.16E-04	24-hour	24	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chlorobenzene	108-90-7	1.61E-05	Calpuff	3.12E-04	9.39E-05	1-hour	3500	Health	Sch. 3	Guideline	B1	<1%	Note 2, 3	
Chlorobenzene	108-90-7	1.61E-05	Calpuff	5.15E-04	1.55E-04	10-minute	4500	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	
Chloroform	67-66-3	1.14E-04	Calpuff	1.17E-04	1.10E-04	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Chloroform	67-66-3	1.14E-04	Calpuff	1.17E-04	1.10E-04	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Chromium (hexavalent)	18540-29-9	3.47E-05	Calpuff	1.11E-06	1.11E-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	3.47E-05	Calpuff	3.55E-05	3.34E-05	24-hour	0.07	Health	Sch. 6	URT	—	<1%	—	
Chrysene	218-01-9	8.41E-08	Calpuff	8.58E-08	8.09E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Cobalt	7440-48-4	1.99E-06	Calpuff	2.03E-06	1.91E-06	24-hour	0.1	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Copper	7440-50-8	1.99E-04	Calpuff	2.03E-04	1.91E-04	24-hour	50	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Dibenzo(a,c)anthracene	215-58-7	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dibenzo(a,h)anthracene	53-70-3	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Dichlorodifluoromethane	75-71-8	2.79E-05	Calpuff	2.85E-05	2.69E-05	24-hour	500000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Dichloroethene, 1,1 -	75-34-3	1.31E-05	Calpuff	1.33E-05	1.26E-05	24-hour	165	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloroethene, 1,1 -	75-34-3	1.31E-05	Calpuff	1.33E-05	1.26E-05	24-hour	1650	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dichloromethane	75-09-2	1.23E-03	Calpuff	1.25E-03	1.18E-03	24-hour	220	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Dichloromethane	75-09-2	1.23E-03	Calpuff	1.25E-03	1.18E-03	24-hour	22000	Health	Sch. 6	URT	—	<1%	—	Apr-18
Dioxins, Furans and Dioxin- like PCBs	N/A	0.00068 µg TEQ/s	Calpuff	0.00069 pg TEQ/m³	0.00065 pg TEQ/m³	24-hour	0.1 pg TEQ/m³	Health	Sch. 3	Guideline	B1	<1%	Note 8, 8a, Table 1URT - Note 4, Table 4	Apr-18
Ethylbenzene	100-41-4	4.06E-04	Calpuff	4.14E-04	3.90E-04	24-hour	1000	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	4.06E-04	Calpuff	1.30E-02	3.90E-03	10-minute	1900	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Ethylbenzene	100-41-4	4.06E-04	Calpuff	4.14E-04	3.90E-04	24-hour	14000	Not Applicable	Sch. 6	URT	—	<1%	—	Apr-18
Ethylene Dibromide	106-93-4	2.61E-05	Calpuff	2.67E-05	2.52E-05	24-hour	3	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Fluoranthene	206-44-0	2.68E-07	Calpuff	2.74E-07	2.58E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Fluorides	7664-39-3	3.97E-03	Calpuff	4.05E-03	3.82E-03	24-hour	0.86	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	3.97E-03	Calpuff	4.57E-04	4.57E-04	30-day	0.34	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	3.97E-03	Calpuff	4.05E-03	3.82E-03	24-hour	1.74	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	3.97E-03	Calpuff	4.57E-04	4.57E-04	30-day	0.69	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	3.97E-03	Calpuff	4.05E-03	3.82E-03	24-hour	3.44	Vegetation	Sch. 3	Standard	B1	<1%	Note 2, 20	Apr-18
Fluorides	7664-39-3	3.97E-03	Calpuff	4.57E-04	4.57E-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/m³]	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
Fluorine	86-73-7	1.26E-07	Calpuff	1.29E-07	1.21E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Formaldehyde	50-00-0	1.52E-06	Calpuff	1.55E-06	1.46E-06	24-hour	65	Odour & Irritation	Sch. 3	Standard	B1	<1%	—	Apr-18
Hexachlorobenzene	118-74-1	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.011	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Hydrogen Chloride	7647-01-0	1.37E-01	Calpuff	1.40E-01	1.32E-01	24-hour	20	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Hydrogen Chloride	7647-01-0	1.37E-01	Calpuff	1.40E-01	1.32E-01	24-hour	200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Indeno(1,2,3 – cd)pyrene	193-39-5	7.53E-08	Calpuff	7.69E-08	7.25E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Lead	7439-92-1	1.37E-05	Calpuff	1.40E-05	1.32E-05	24-hour	0.5	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Lead	7439-92-1	1.37E-05	Calpuff	1.58E-06	1.58E-06	30-day	0.2	Health	Sch. 3	Standard	B1	<1%	Note 2URT - Note 4, Table 4	Apr-18
Lead	7439-92-1	1.37E-05	Calpuff	1.40E-05	1.32E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	Note 2URT - Note 4, Table 4	Apr-18
Mercury	7439-97-6	7.43E-06	Calpuff	7.58E-06	7.15E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Molybdenum	7439-98-7	1.98E-04	Calpuff	2.03E-04	1.91E-04	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Naphthalene	91-20-3	1.77E-06	Calpuff	1.81E-06	1.70E-06	24-hour	22.5	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Naphthalene	91-20-3	1.77E-06	Calpuff	5.66E-05	1.70E-05	10-minute	50	Odour	Sch. 3	Guideline	B1	<1%	Note 2, 3	Apr-18
Nickel	7440-02-0	4.63E-05	Calpuff	1.48E-06	1.48E-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	4.63E-05	Calpuff	4.73E-05	4.46E-05	24-hour	2	Health	Sch. 6	URT	—	<1%	—	Apr-18
Nickel	7440-02-0	4.63E-05	Calpuff	1.48E-06	1.48E-06	Annual	0.4	Health	—	AAV	—	<1%	—	Apr-18
Nitrogen Oxides	10102-44-0	4.21E+00	Calpuff	4.30E+00	4.06E+00	24-hour	200	Health	Sch. 3	Standard	B1	2%	Notes 2, 17	Apr-18
Nitrogen Oxides	10102-44-0	4.21E+00	Calpuff	8.17E+01	2.46E+01	1-hour	400	Health	Sch. 3	Standard	B1	6%	Notes 2, 17	Apr-18
O-terphenyl	84-15-1	1.18E-07	Calpuff	1.20E-07	1.13E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	
PM_{10} (Condensable and Filterable)	N/A	1.86E-01	Calpuff	4.34E-01	4.23E-01	24-hour	50	—	—	AAQC	—	<1%	—	
PM_{10} (Filterable Only)	N/A	2.23E-02	Calpuff	2.28E-02	2.65E-01	24-hour	50	—	—	AAQC	—	<1%	—	
$PM_{2.5}$ (Condensable and Filterable)	N/A	1.76E-01	Calpuff	1.80E-01	4.13E-01	24-hour	30	—	—	AAQC	—	1%	—	
$PM_{2.5}$ (Filterable Only)	N/A	1.22E-02	Calpuff	1.25E-02	2.55E-01	24-hour	30	—	—	AAQC	—	<1%	—	
Pentachlorobenzene	608-93-5	7.55E-08	Calpuff	7.71E-08	7.27E-08	24-hour	80	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Pentachlorophenol	87-86-5	3.72E-07	Calpuff	3.80E-07	3.58E-07	24-hour	20	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Perylene	198-55-0	7.43E-08	Calpuff	7.59E-08	7.15E-08	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Phenanthrene	85-01-8	1.04E-06	Calpuff	1.07E-06	1.01E-06	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Pyrene	129-00-0	2.40E-07	Calpuff	2.45E-07	2.31E-07	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Selenium	7782-49-2	2.86E-05	Calpuff	2.92E-05	2.75E-05	24-hour	10	Health	Sch. 3	Guideline	B1	<1%	—	Apr-18
Silver	7440-22-4	1.67E-06	Calpuff	1.70E-06	1.60E-06	24-hour	1	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Sulphur Dioxide	7446-09-5	5.76E-03	Calpuff	5.88E-03	5.54E-03	24-hour	275	Health	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023Note 2URT - Note 4, Table 4	Apr-18
Sulphur Dioxide	7446-09-5	5.76E-03	Calpuff	1.12E-01	3.36E-02	1-hour	690	Health	Sch. 3	Standard	B1	<1%	Effective until July 1, 2023Note 2URT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	1.40E-05	Calpuff	1.43E-05	1.35E-05	24-hour	360	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Tetrachloroethene	127-18-4	1.40E-05	Calpuff	1.43E-05	1.35E-05	24-hour	3600	Health	Sch. 6	URT	—	<1%	—	
Tetralin	119-64-2	1.85E-06	Calpuff	1.89E-06	1.78E-06	24-hour	151.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Thallium	7440-28-0	3.89E-06	Calpuff	3.98E-06	3.75E-06	24-hour	0.5	Health	Sch. 3	SL-JSL	B2	Below SL-JSL	—	Apr-18
Toluene	108-88-3	1.61E-03	Calpuff	1.64E-03	1.55E-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	3.47E-05	Calpuff	3.55E-05	3.34E-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	3.47E-05	Calpuff	3.55E-05	3.34E-05	24-hour	5	Health	Sch. 6	URT	—	<1%	—	Apr-18
Total Particulate Matter (Condensable and Filterable)	N/A	2.53E-01	Calpuff	2.58E-01	4.87E-01	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Total Particulate Matter (Filterable only)	N/A	2.53E-01	Calpuff	2.58E-01	4.87E-01	24-hour	120	Particulate	Sch. 3	Guideline	B1	<1%	—	Apr-18
Trichloroethane, 1,1,1 -	71-55-6	1.31E-05	Calpuff	1.33E-05	1.26E-05	24-hour	115000	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Trichloroethene	86-42-0	1.31E-05	Calpuff	1.33E-05	1.26E-05	24-hour	0.1	—	—	De Minimus	—	Below De Minimus	—	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	1.40E-05	Calpuff	1.43E-05	1.35E-05	24-hour	12	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Trichloroethylene, 1,1,2 -	79-01-6	1.40E-05	Calpuff	1.43E-05	1.35E-05	24-hour	1200	Health	Sch. 6	URT	—	<1%	—	Apr-18
Trichlorofluoromethane	75-69-4	8.23E-05	Calpuff	8.41E-05	7.92E-05	24-hour	6000	Health	Sch. 3	Guideline	B1	<1%	Note 10	Apr-18
Vanadium	7440-62-2	1.08E-06	Calpuff	1.11E-06	1.04E-06	24-hour	2	Health	Sch. 3	Standard	B1	<1%	—	Apr-18
Vinyl chloride	75-01-4	2.61E-05	Calpuff	2.67E-05	2.52E-05	24-hour	1	Health	Sch. 3	Standard	B1	<1%	URT - Note 4, Table 4	Apr-18
Vinyl chloride	75-01-4	2.61E-05	Calpuff	2.67E-05	2.52E-05	24-hour	100	Health	Sch. 6	URT	—	<1%	—	Apr-18
Xylenes, m-, p- and o-	1330-20-7	3.83E-03	Calpuff	3.91E-03	3.68E-03	24-hour	730	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	3.83E-03	Calpuff	1.22E-01	3.68E-02	10-minute	3000	Not Applicable	Sch. 3	Guideline	B1	<1%	Note 2, 3, 22	Apr-18
Xylenes, m-, p- and o-	1330-20-7	3.83E-03	Calpuff	3.91E-03	3.68E-03	24-hour	7300	Not Applicable	Sch. 6	URT	—	<1%	—	Apr-18
Zinc	7440-66-6	2.10E-04	Calpuff	2.15E-04	2.02E-04	24-hour	120	Particulate	Sch. 3	Standard	B1	<1%	—	Apr-18

Appendix 5: Ambient Air Monitoring Station Locations



DYEC Site and Ambient Monitoring Station Locations

True North

Drawn by: DJH | Figure: 1

Approx. Scale: 1:20,000

Date Revised: Apr 17, 2020

Map Projection: NAD 1983 UTM Zone 17N

DYEC - Region of Durham, Ontario

Project #: 1803743

Appendix 6: Maintenance Summary

January 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	12123	only 1 solenoid working for A pugmill please investigate and repair. Insufficient water supply for proper operation (RB:KCOATHAM)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
2	12122	Still getting rope out of grove. Crane parked. (RB:FTROTTIE)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
3	12121	Please check out sensor .ECS belt will not track back . We have it on jog. (RB:FTROTTIE)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
4	12112	Hose cabinet on ground floor between economizers HS-0011 is damaged by forklift and will need to be replaced. Piping will require to be disassembled and realigned. support brackets for cabinet are bent as well see attached pictures (RB:KCOATHAM)	CM	FPS-BB	FIRE PROTECTION SYSTEM BOILER BUILDING	Complete
5	12106	replace power supply to weather video screen in control room (RB:KCOATHAM)	CM	BLD-CM	CONTROL ROOM	Complete
6	12104	video feed lost for upper 6 screens in the control room, used for video surveillance through the plant. please investigate and repair (RB:KCOATHAM)	CM	SEC-VID-1	VIDEO RECORDER	Complete
7	12103	WILL NOT START UP. (RB:FTROTTIE)	CM	HV-UH-010	TURBINE BUILDING GAS UNIT HEATER 10	Complete
8	12102	WILL NOT START UP . (RB:FTROTTIE)	CM	HV-UH-020	FIRE PUMP HOUSE GAS UNIT HEATER 20	Complete
9	12101	Diesel slip tank in pickup truck not working. Pump turns on and tank is full. 1/14/2020 (RB:JPURCELL)	CM	MOB-PUTK-1	PICK-UP TRUCK	Complete
10	12097	Threads are worn and need to be chased to allow bolts to work effectively (RB:LMCDONEL)	CM	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
11	12096	Threads are worn and need to be chased for bolts to work effectively (RB:LMCDONEL)	CM	2-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 2	Complete
12	12095	Fastener to hold on hinge fell off top hinge and was unable to be found in the snow. Battery also needs to be jumped each start. (RB:LMCDONEL)	CM	MOB-SKDSR-1	SKID STEER	Complete
13	12094	Please repair leak on BL1303 pump B .Leaking (RB:FTROTTIE)	CM	RO-SKD-2	RO FEED PUMP SKID	Complete
14	12091	Replacement of Gas flow meter for unit 1	CM	1-FIT-3601	AUXILIARY BURNER NATURAL GAS FLOW TRANSMITTER UNIT 1	Complete
15	12085	Air cannon dump valve failing open (RB:LMCDONEL)	CM	RF-SP-101	SECOND PASS UNIT 1	Complete
16	12082	Procurement of SEW gearbox with motor as it is leaking for APC collecting screw 102	CM	APCAH-CV-101	INLET CHAMBER FLYASH SCREW CONVEYOR S1.1 UNIT 1	Complete
17	12079	Install Steam Chest Pressure gauge.	CM	TG-GV-100	STEAM TURBINE	Complete
18	12070	Keeps coming on and operator cant start up fan in Auto. (RB:FTROTTIE)	CM	C-VSHH-0836	ACC CELL 3 FAN VIBRATION SWITCH HI HI	Complete
19	12068	new caustic pump at RO runs continuously at 464ml/hr even though RO is off. RO PLC caustic pump controller says out put is 0 but the pump is still running. 1/13/2019 (RB:JPURCELL)	CM	CF-PU-403B	CAUSTIC DOSING PUMP B	Complete
20	12062	Control CEMs for #1 boiler all outlet are frozen reading are not changing . (RB:FTROTTIE)	CM	1-AE-4740	INLET CEM SYSTEM UNIT 1	Complete
21	12061	FAN AND HEATER NOT WORKING (RB:FTROTTIE)	CM	HV-UH-011	TURBINE BUILDING GAS UNIT HEATER 11	Complete
22	12060	Will not run need looking into for heating will not start up. (RB:FTROTTIE)	CM	HV-UH-002	BOILER BUILDING GAS UNIT HEATER 2	Complete
23	12058	Changed out white diaphragm on solenoid #4 .Done on Jan 7 2020 night shift. (RB:FTROTTIE)	CM	FG-BG-107	BAGHOUSE COMPARTMENT 6 UNIT 1	Complete
24	12056	Residue loader left side door for oil filter needs repairing and area damaged. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
25	12052	The belt appears to have a tear in it. Please check this out. (RB:GCOWLEY)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete

January 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
26	12051	Do not know what the part is actually called so will attach picture. Tension gears? Are loose on cam to shaft connection and vibrate during operation. *Note 2 small gears in picture* (RB:LMCDONEL)	CM	SB-RET-202	EVAPORATOR RETRACTABLE SOOTBLOWER 2 UNIT 2	Complete
27	12050	El 115 top of stairs, southeast. no light. Bulb probably burnt out. (RB:GCOWLEY)	CM	120-EM	EMERGENCY LIGHTS	Complete
28	12049	Continuous blow down needle valves on both units are passing even when fully closed causing excessive loss of water and the need to add extra chemical. Need to be repaired or replaced. (RB:LMCDONEL)	CM	CBD-PIP-COM	CONTINUOUS BLOWDOWN PIPING, VALVES AND ATTACHMENTS	Complete
29	12048	Pressure indication low low alarm to be further investigated during outage to avoid potential TG downtime as per R.McComb's request. (RB:LMCDONEL)	CM	TG-PIP-LO	TURBINE LUBE OIL PIPING, VALVES AND ATTACHMENTS T/G A	Complete
30	12047	PSLL 0319 switch looks like it failed. Alarm is in for LO LO lube oil pressure, but oil pressures are normal. Aux. oil pump not coming on. (RB:GCOWLEY)	CM	TG-PIP-LO	TURBINE LUBE OIL PIPING, VALVES AND ATTACHMENTS T/G A	Complete
31	12046	Pugmill B first 3 water nozzles are not working. Nozzles have been rodded out to check for plugs but still no flow. Possible solenoid issue. 1/1/2020 (RB:JPURCELL)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
32	12045	Readjust the laser lines on the Tip Floor. They have moved in about 2 feet from where they should be. (RB:AHUXTER)	CM	BLD-TIP	TIPPING FLOOR	Complete
33	12044	Tighten up packing on motor end .Leaking ash . (RB:FTROTTIE)	CM	AH-CV-204	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 2	Complete
34	12043	Tighten packing on shaft at motor end to stop ash falling down . (RB:FTROTTIE)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
35	12040	Please check out transmitter showing higher then normal pressure (RB:FTROTTIE)	CM	1-PIT-4764	EVAPORATIVE COOLER OUTLET FLUE GAS PRESSURE TRANSMITTER UNIT 1	Complete
36	12038	Condensate trap needs to be check out on cold iron outage and condenser for leaks .Getting high condensate alarms . Also may need new valves for upper shut off to level switch. (RB:FTROTTIE)	CM	CD-CD-002	TURBINE GLAND STEAM CONDENSER	Complete
37	12036	warning alarm change dirty oil filter is in please arrange for filter changeout (RB:KCOATHAM)	CM	SA-AC-001B	SERVICE AIR COMPRESSOR B	Complete
38	12035	warning alarm change dirty oil filter is in please arrange for filter changeout (RB:KCOATHAM)	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Complete
39	12034	Supply electrical receptacle to grey Safety Halo Cabinet in stairwell going to Tipping Hall on the ground floor. (RB:KCOATHAM)	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Complete
40	12033	Soot blower needs checking didn't seat so soot blower had to be lacked to stop. (RB:FTROTTIE)	CM	SB-ROT-115	ECONOMIZER ROTARY SOOTBLOWER 15 UNIT 1	Complete
41	12032	Please replace small rear window back of cab .Window cracked. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
42	12031	Fan was tripping when lost turbine with no Alarms. (RB:FTROTTIE)	CM	CD-AC-0012	ACC CELL 2	Complete
43	12027	Cement rotary valve runs after pugmill shut off (RB:GCOWLEY)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
44	12025	Screw at the bottom of the Loss in weight feeder needs to be checked for a foreign objects (gaskets etc.) that might be in there. This system does not feed as much lime as it should and pieces of gaskets have been found in the other feeder (RB:GCOWLEY)	CM	LI-TK-C02	HYDRATED LIME LOSS IN WEIGHT FEEDER SPARE	Complete
45	12023	Probe damaged while cleaning probe pins are broken. Old probe in-place needs checking its overflowing . (RB:FTROTTIE)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
46	12022	Please check out A3 Fan keeps tripping at 53% when on freeze protection . (RB:FTROTTIE)	CM	C-SIC-0834	ACC CELL 3 FAN VARIABLE FREQUENCY DRIVE	Complete
47	12020	baghouse vibrator 205 is out of service and not working. (11/29/2019) (RB:JPURCELL)	CM	AH-VI-205	BAGHOUSE COMPARTMENT 5 HOPPER VIBRATOR UNIT 2	Complete

January 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
48	12019	Bagouse vibrator 208 is out of service and not working (11/29/2019) (RB:JPURCELL)	CM	AH-VI-208	CRUDE/CLEAN GAS CHAMBER VIBRATOR 2 UNIT 2	Complete
49	12018	Baghouse vibrator 107 out service and not working (11/29/2019) (RB:JPURCELL)	CM	AH-VI-106	BAGHOUSE COMPARTMENT 6 HOPPER VIBRATOR UNIT 1	Complete
50	12017	bag house vibrator 102 out of service and not working (11/29/2019) (RB:JPURCELL)	CM	AH-VI-102	BAGHOUSE COMPARTMENT 2 HOPPER VIBRATOR UNIT 1	Complete
51	12009	Getting constant alarms for Grate 1 step 8 bars 4 & 8. Please silence them, very annoying and distracting for the CRO (RB:GCOWLEY)	CM	1-TE-G1S4B4	STOKER GRATE RUN 1, STEP 4, BAR 4 TEMPERATURE ELEMENT UNIT 1	Complete
52	12007	Level showing 65% for 2 days. Transmitter cleaned and no change. May need R. McComb to cycle power as he has before. (RB:LMCDONEL)	CM	C-LIT-4755	HYDRATED LIME SILO LEVEL TRANSMITTER	Complete
53	12072	Installation of scaffolding for Annual Inspection of Refuse crane	CM	RF-RC-001A	REFUSE CRANE EAST	Work Finished
54	11987	Emergency call in for Elevator repair.	CM	ELV-BB	BOILER BUILDING ELEVATOR	Work Finished
55	12069	NH3 ON UNIT 2 CAME IN OUT OF CONTROL (RB:FTROTTIE)	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
56	12065	OUT OF CONTROL (RB:FTROTTIE)	CMENV	1-AE-4733	INLET SULFUR DIOXIDE ANALYZER UNIT 1	Complete
57	12064	OUT OF CONTROL (RB:FTROTTIE)	CMENV	1-AE-4738	STACK NOX ANALYZER UNIT 1	Complete
58	12054	Remove and replace Unit 1 AMESA trap, union, titanium bend and glass tube. (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
59	12053	Remove and replace Unit 1 AMESA trap, union, titanium bend and glass tube (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
60	12013	On 16-Dec-19, exchange AMESA trap, gooseneck nozzle, union and titanium bend on Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
61	12012	On 16-Dec-19, exchange AMESA trap, gooseneck nozzle, union and titanium bend on Unit 1 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
62	12006	Collect GHG sample from Unit 2 AMESA (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
63	12005	Out of control (RB:FTROTTIE)	CMENV	1-AE-4739	STACK AMMONIA ANALYZER UNIT 1	Complete
64	12004	Procurement of PT# C01-C2-0098-M--EQUIPPED MOTHER BOARD FOR MIR LCD and PT# C03-V2-0053-M--EQUIPPED MICROPROCESSOR III BOARD-9MHz--MIR/MIRIS	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
65	11983	Procurement of 1/4`` T Union Tee--GLASS COATED and 1/4" Port Connector--GLASS COATED	CMENV	1-IN-LN	INLET CEMS SAMPLE LINES UNIT 1	Complete
66	12120	Month 01 Swing Gate Inspection Finding - swing gate on fire water tank needs to be adjusted (shorten) to allow room for worker to close (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
67	12099	#127 door latch sticks (north door leading to locker hallway - near ladies change room). Unable to open properly. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
68	12098	EL.18 East of #1 Air hose is missing the fitting/connector. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
69	12067	Please check out roll up door east door of tipping floor ..Top right hand side of door seams to be lose . And Door is all bent . (RB:FTROTTIE)	CMSAF	BLD-TIP	TIPPING FLOOR	Complete
70	12066	No Alarm . Shower works but eye wash station part is frozen . (RB:FTROTTIE)	CMSAF	PW-SS-0012	PORTLAND CEMENT/POZZOLAN SILOS SAFETY SHOWER/EYEWASH STATION	Complete
71	12059	Purge Air Hose Connection SB107 EL.18 is stressed. Please repair accordingly. (SHE Submission) (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
72	12057	Month 01 JHSC Inspection Finding - Housekeeping - north east man door when closed, locks, preventing it from opening from the outside. Please repair/replace locking feature. . (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

January 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
73	12055	admin area elevator not landing on selected floor when called. Elevator has erratic movement between levels. 1/6/2020 (RB:JPURCELL)	CMSAF	ELV-BB	BOILER BUILDING ELEVATOR	Complete
74	12042	Swing Gate EL.18 East Crane Platform West - not closing properly. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
75	12041	Residue loader ladder second step requires weld repair. 12/31/2019 (RB:JPURCELL)	CMSAF	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
76	12037	center east and center west refuse pit smoke ventilation units rubber membrane is in need of repair see photo attached. Presently allowing water to accumulate under membrane dripping into building (RB:KCOATHAM)	CMSAF	FPS-PIT	FIRE PROTECTION SYSTEM REFUSE PIT	Complete
77	12030	Suspected Leak on HCA204 collecting screw. Build-up of ash on handrails below. Please investigate/repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
78	12026	Month 12 Facility Inspection Finding - Procedure Deficiency - Ho load dumping area not identified with signage or painted lines per SOP-REF-002. Please install signage. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
79	12021	EL.18 - #2 SB 121 Guard Off. Please replace. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
80	12016	Month 11 Facility Inspection - Thermal Hazard – EL. 6 - #2 Barn door - protective glass on viewport missing. Please replace. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
81	12015	Month 11 Facility Inspection - Thermal Hazard – El. 23 - Cladding missing on #1 & #2 MS Valves. Please replace (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
82	12011	Residue loader ladder needs welding broken on bottom step left side. Caution tag on ladder. (RB:FTROTTIE)	CMSAF	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
83	12010	EL.23 #2 - Sootblower 202 viewport door has a broken latch, preventing it from closing. There is a spare on EL.26 #1 east side. Please replace. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
84	12008	Elevator is skipping floors and hard breaking and not going where selected. Emergency power light also active. (RB:LMCDONEL)	CMSAF	ELV-BB	BOILER BUILDING ELEVATOR	Complete
85	11958	AMMONIA GAS DETECTOR SAMPLING	CMSAF	AQ-LD-BB	AQUEOUS AMMONIA BOILER BUILDING LEAK DETECTOR SYSTEM	Work Finished

February, 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	12271	Weld and turn shaft on roller for RAL for Surge Bin.	CM	AH-BIN-001B	FLYASH SURGE BIN B	Complete
2	12263	rtd has failed please investigate and replace as required. (RB:KCOATHAM)	CM	1-TE-4844	BAGHOUSE COMPARTMENT 2 HOPPER HEATER TEMPERATURE	Complete
3	12251	Not reading right (RB:GCOWLEY)	CM	C-LIT-4775	ACTIVATED CARBON SILO LEVEL TRANSMITTER	Complete
4	12250	Boiler building north west roof fan inoperative. 2/10/2020 (RB:JPURCELL)	CM	HV-FN-006	BOILER BUILDING REVERSIBLE POWER ROOF VENTILATOR 6	Complete
5	12249	Feedchute damper on unit #1 is not opening or closing when asked to. May be solenoid or feed issue. (RB:LMCDONEL)	CM	RF-CHT-101	FEEDCHUTE UNIT 1	Complete
6	12248	Continuous blown down heat exchanger has flange leak on north end. 2/5/2020 (RB:JPURCELL)	CM	CB-HX-001	CONTINUOUS BLOWDOWN HEAT EXCHANGER	Complete
7	12241	one louver mechanism on north wall requires repair/replacement see EO for which one is broken (RB:KCOATHAM)	CM	BLD-TIP	TIPPING FLOOR	Complete
8	12239	braided flex hose connecting from hard piping to gas pass on ele 3 developing a hole .needs replacing. duct tape put on in the interim (RB:KCOATHAM)	CM	CAR-PIP-COM	ACTIVATED CARBON PIPING, VALVES AND ATTACHMENTS	Complete
9	12238	#1 boiler west column and glass blow down bypass button is broken at elevation 6. Required for proper blow down of boilers. (RB:KCOATHAM)	CM	1-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 1	Complete
10	12237	adjustment of crane upper limit is required to keep grapple from swinging when entering the hopper (RB:KCOATHAM)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
11	12235	Blasting blue bin has damaged spool piece connection hinge. Weld repair required (RB:JPURCELL)	CM	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
12	12233	Boiler 1 amesaTRBL alarm active - 2/8/2020 (RB:JPURCELL)	CM	BLD-CEM	CEMS ENCLOSURE	Complete
13	12232	cell 206 solenoid #7 firing weak E254-07C and solenoid 9 E254-09C does not fire at all may be a connection or fuse./ both worked on today replaced diaphragms (RB:KCOATHAM)	CM	FG-BG-206	BAGHOUSE COMPARTMENT 5 UNIT 2	Complete
14	12231	Fuel pump on back of truck runs, but won't pump any diesel fuel. (RB:GCOWLEY)	CM	MOB-PUTK-1	PICK-UP TRUCK	Complete
15	12229	Needs new bolt on the west side to open and close gate. east side was replace. (RB:FTROTTIE)	CM	AH-DG-001	NON-FERROUS DIVERTER GATE	Complete
16	12227	Please check out crane getting rope out of grove .Please check limit switch. (RB:FTROTTIE)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
17	12224	APC Reactor 2 west of boiler 2, flow switch sticks (RB:KCOATHAM)	CM	2-FSH-2303	APC REACTION CHAMBER CONDITIONING ROTOR AREA UNIT 2 SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete
18	12223	excessive leakage from seal (RB:KCOATHAM)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete
19	12222	cell 106 solenoid #9 is not working E154-09C, diaphragm is blown please repair cell 105 #2 solenoid is weak.E152-02C (RB:KCOATHAM)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
20	12221	please inspect east lifting cable bulge on cable strand appears to be separating. (RB:KCOATHAM)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
21	12220	cell 206 solenoid #7 and #10 have failed and require replacement diaphragms E254-07C, E254-10C additional week solenoids cell 202 E244-10C, Cell 206 E254-09C, (RB:KCOATHAM)	CM	FG-BG-200	BAGHOUSE UNIT 2	Complete
22	12219	purge air supply hose came off the camera and we put it back on. Please check the air supply/regulator for these cameras on both units. (RB:GCOWLEY)	CM	CM-FN-IR-2	FURNACE IR CAMERA UNIT 2	Complete

February, 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
23	12218	blue bins for fork lift require safety chain hooks on the two in the grizzly and two at the ash dischargers (RB:KCOATHAM)	CM	MOB-FKLT-1	FORKLIFT TOYOTA	Complete
24	12217	North fire pump diesel tank shows low level in control cabinet but manual level indicates 7/8 full please verify electronic level switch for accuracy on tank level (RB:KCOATHAM)	CM	FP-TK-002A	FIRE WATER DIESEL PUMP A DIESEL FUEL OIL TANK	Complete
25	12216	FAN HAS BEEN LOCKED OUT SINCE 9/20/17 BY LAKE LAND (RB:FTROTTIE)	CM	HV-UH-009	TURBINE BUILDING GAS UNIT HEATER 9	Complete
26	12215	FAN RUNS BUT NO HEAT CHECK BURNER. (RB:FTROTTIE)	CM	HV-UH-005	BOILER BUILDING GAS UNIT HEATER 5	Complete
27	12214	NO HEAT FAN WILL RUN.. (RB:FTROTTIE)	CM	HV-UH-004	4	Complete
28	12207	Replace Thermo couple with new thermowell for Turbine	CM	C-TE-0215	TURBINE INLET STEAM TEMPERATURE ELEMENT	Complete
29	12205	Procurement of rebuild kit for Gauge Glass for boiler	CM	RF-BO-201	BOILER UNIT 2	Complete
30	12203	Temperature thermocouple failed and required to be replaced (RB:KCOATHAM)	CM	2-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE	Complete
31	12192	Air compressor needs filter replacement for Unit A	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Complete
32	12189	Procurement of rebuild kit for Gauge Glass for boiler	CM	RF-BO-201	BOILER UNIT 2	Complete
33	12188	Fabricate and supply Pins and Washers for the Grapple.	CM	RF-GRP-1	REFUSE CRANE HYDRAULIC GRAPPLE 1	Complete
34	12269	Supply,Fabricate and paint crane platform addition for the west refuse crane as per drawing number 19-0253-10000.	CMSAF	RF-RC-001B	REFUSE CRANE WEST	Complete
35	12240	01 - Monthly Gai-Tronics Inspection Finding - Unit not working properly in the Control Room and Tipping Floor - NE centre wall. Please troubleshoot (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
36	12236	safety shower head broken off, require a new one ordered/installed. Appears water froze in the head causing the problem. please investigate (RB:KCOATHAM)	CMSAF	PW-SS-0001	AQUEOUS AMMONIA STORAGE TANK AREA SAFETY SHOWER/EYEWASH STATION	Complete
37	12226	Swing Gate Inspection Deficiencies - (1) EL.18 Deaerator - only has 1 hinge, (2) Combustion Fan Motor #2 - doesn't close, (3) Fire Water Tank Middle - no room to get out when open, (4) Pozz and cement silo's missing transitional platforms (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
38	12208	SPRINKLER DEFICIENCIES REPAIR FROM ANNUAL FIRE INSPECTION.	CMSAF	FP-PU-001B	FIRE WATER DIESEL PUMP B	Complete
39	12198	fabrication and supply of filter support tray for CA fan unit 2	CMSAF	CA-FI-101	COMBUSTION AIR FAN INLET AIR FILTER UNIT 2	Complete
40	12196	Troubleshooting of fire system alarm and faults	CMSAF	FP-PNL-ALN	CENTRAL FIRE ALARM CONTROL PANEL	Complete
41	12245	On 28-Feb, remove and replace AMESA trap and pieces on Unit 1 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
42	12244	On 28-Feb, remove and replace AMESA trap and pieces on Unit 1 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
43	12243	On 7-Feb, remove and replace AMESA trap on pieces on Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
44	12242	On 7-Feb, remove and exchange AMESA trap and pieces on Unit 1. (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
45	12234	Pugmill B second bank of water nozzles not working. Nozzles have been rodded out and confirmed enabled on the PLC. 2/9/2020 (RB:JPURCELL)	CMENV	AH-MIX-001B	FLYASH PUGMILL B	Complete
46	12230	Morning Cal complete carbon dioxide failed OOC (RB:KCOATHAM)	CMENV	2-AE-4748	STACK CARBON DIOXIDE ANALYZER UNIT 2	Complete
47	12228	Unit 2 HCL failed morning cal please check (RB:KCOATHAM)	CMENV	2-AE-4732	STACK HCL ANALYZER UNIT 2	Complete
48	12225	NH# on unit 2 out of control (RB:FTROTTIE)	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
49	12209	On site support for Annual CEM's Maintenance for Unit 1	CMENV	1-CEM-LOG	CEMS DATA LOGGERS UNIT 1	Complete

March, 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	12081	Actuator spares Kit for PV-0005 valve for ACC bypass	CMBPC	C-PV-0005	MAIN STEAM TURBINE BYPASS DESUPERHEATER MAIN STEAM AUTOMATIC ISOLATION VALVE	Complete
2	11590	Turbine steam chest drain line flange leaking	CMBPC	TG-PIP-DN	TURBINE DRAIN PIPING, VALVES AND ATTACHMENTS T/G A	Complete
3	11570	Decrease opening time of PCV005 to allow for proper isolation of PCV003	CMBPC	C-PV-0005	MAIN STEAM TURBINE BYPASS DESUPERHEATER MAIN STEAM AUTOMATIC ISOLATION VALVE	Complete
4	11569	Replace SJAE primary air suction valves x4	CMBPC	MS-CD-001A	STEAM JET AIR EJECTOR SKID 1	Complete
5	11569	Replace SJAE primary air suction valves x4	CMBPC	MS-CD-001B	STEAM JET AIR EJECTOR SKID 2	Complete
6	11568	Replace FW-TCV-001	CMBPC	C-TCV-0001	MEDIUM PRESSURE DESUPERHEATER TEMPERATURE CONTROL VALVE	Complete
7	11563	1" Drain valve on main steam line turbine deck Northwest corner by sample panel leaking. Picture is attached	CMBPC	MS-PIP-COM	MAIN STEAM HEADER PIPING, VALVES AND ATTACHMENTS	Complete
8	11270	Install new control valve on turbine gland steam bleed off line. Valve will open or closed based on a temperature set-point from the DCS. Valve will require air and control wire.	CMBPC	TG-PIP-GS	GLAND STEAM PIPING, VALVES AND ATTACHMENTS	Complete
9	9322	Parts for Deaerator	CMBPC	CD-DA-001	DA VESSEL	Complete
10	12392	Please insert XAD AMESA trap into Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
11	12391	Please insert XAD AMESA trap into Unit 1 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
12	12379	NH3 4x out (RB:LMCDONEL)	CMENV	1-STK-PRB	STACK CEMS SAMPLE PROBE UNIT 1	Complete
13	12378	THC 4x out (RB:LMCDONEL)	CMENV	1-AE-4744	INLET THC ANALYZER UNIT 1	Complete
14	12377	Please pull files from LFM-3 unit for radiation hit on 20-Feb-20 at 12:35pm. (RB:AHUXTER)	CMENV	SCL-RAD	TRUCK RADIATION DETECTORS	Complete
15	12407	Procurement and installation of Differential Pressure Transmitter.	CMOUT	1-PIT-4770	REACTOR CHAMBER OUTLET FLUE GAS PRESSURE TRANSMITTER UNIT 1	Complete
16	12401	Procurement and installation of Differential Pressure Transmitter.	CMOUT	1-PIT-4770	REACTOR CHAMBER OUTLET FLUE GAS PRESSURE TRANSMITTER UNIT 1	Complete
17	12399	Ash discharger drain lines closed off from scale buildup can we replace piping or change to plastic piping possible (RB:KCOATHAM)	CMOUT	SR-DC-201	ASH DISCHARGER UNIT 2	Complete
18	12356	Replace thermo couple for 2-TE4318/2-TE-4318/1-TE-4313	CMOUT	2-TE-4318	SUPERHEATER 3 INLET FLUE GAS TEMPERATURE ELEMENT UNIT 2	Complete
19	12343	Relief valve lifting. Replace valve	CMOUT	SA-PSV-1001	APC SERVICE AIR RECEIVER PRESSURE RELIEF VALVE UNIT 1	Complete
20	12270	Provide manpower including material supply for insulation and cladding work during the outage for valve replacement	CMOUT	RF-BO-101	BOILER UNIT 1	Complete
21	12252	Several grate bar temps are no good on both units.. As per Ammanual, I am attaching a list of the bad ones (RB:GCOWLEY). Reapir thermocouples	CMOUT	1-TE-G1S6B14	STOKER GRATE RUN 1, STEP 6, BAR 14 TEMPERATURE ELEMENT UNIT 1	Complete
22	12117	Replace 1-V-197 SH4 inlet header drain due to leak-by	CMOUT	DRN-PIP-1	BOILER DRAIN PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
23	12088	Procurement and installation of Differential Pressure Transmitter.	CMOUT	1-PIT-4770	REACTOR CHAMBER OUTLET FLUE GAS PRESSURE TRANSMITTER UNIT 1	Complete
24	12087	Outage blasting support- Lake land contractors Sunday, March 1, Day & Night Shift, 12 hrs- 4 crew each shift	CMOUT	RF-BO-201	BOILER UNIT 2	Complete
25	12086	Outage blasting support- Lake land contractors Saturday, Feb 29, Day/Night Shift, 12 hrs- 4 crew	CMOUT	RF-BO-101	BOILER UNIT 1	Complete
26	11989	Procurement of grates and misc parts for Boiler 1 major outage work	CMOUT	RF-GR-2011	STOKER GRATE RUN 1 UNIT 2	Complete
27	11988	Procurement of grates and misc parts for Boiler 1 major outage work	CMOUT	RF-GR-1011	STOKER GRATE RUN 1 UNIT 1	Complete
28	11562	Clean or replace both discharge check valves on turbine AC & DC lube oil pumps. Leak by present	CMOUT	TG-PIP-LO	TURBINE LUBE OIL PIPING, VALVES AND ATTACHMENTS T/G A	Complete
29	11450	2-v-166 Boiler #2 header drain valve westside Martin door leaking by. Replace valve	CMOUT	DRN-PIP-2	BOILER DRAIN PIPING, VALVES AND ATTACHMENTS UNIT 2	Complete

March, 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
30	12414	east crane wire rope (east) has a broken wire - crane is parked. 3/24/2020 (RB:JPURCELL)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
31	12413	Zone 4 not actuating and was stuck @100%. Used zone 3 leads to set @ 17% open and isolate for time being. (RB:LMCDONEL)	CM	1-PY-4203	COMBUSTION AIR FAN INLET AIR DAMPER POSITIONER UNIT 1	Complete
32	12408	Replace Power cable for East Crane	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
33	12406	Boiler 1 wetting mixer 101 valve 3 solenoid is sticking open and not closing. #3 solenoid is manually isolated. 3/24/2020 (RB:JPURCELL)	CM	WW-WC-101	RECIRC FLYASH MIXER 1 WATER CABINET UNIT 1	Complete
34	12405	Ash Discharger skirt. A skirt of some sort to prevent bottom ash from falling between the ash dischargers and conveyor #7 vibrating pan. I think this will eliminate a falling debris zone and improve housekeeping of the plant. (RB:CSHAFER)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
35	12404	blows steam out the back head seal please replace (RB:KCOATHAM)	CM	SB-RET-201	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 2	Complete
36	12403	belt scraper blade underneath is showing wear grooves please check and adjust if possible (RB:KCOATHAM)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
37	12398	Procurement of Pressure transmitter for ACC HP stream	CM	C-PIT-0801-B	ACC CELL 1/2 INLET STEAM DUCT STEAM PRESSURE TRANSMITTER B	Complete
38	12397	West sight glass needs replacing. Can't see level. (RB:FTROTTIE)	CM	1-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 1	Complete
39	12396	Please rebuild sight glass on unit 2 west side (RB:FTROTTIE)	CM	2-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 2	Complete
40	12395	lance port is rotted out requires to be welded or replaced. (RB:KCOATHAM)	CM	FG-LAN-101	EVAPORATIVE COOLER ATOMIZING LANCE UNIT 1	Complete
41	12394	Inlet flap on cell 104 has a hole the size of a tennis ball and requires to be welded. Other flaps may have pin holes. Please investigate and repair as required (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
42	12393	speed switch loose. was full of ash, we cleared it out from the genie boom. could not get it tight. still tripping. (RB:GCOWLEY)	CM	AH-CV-002B	MAIN FLYASH TRANSPORT SCREW CONVEYOR 2B	Complete
43	12390	Getting Alarm on outer bearing on unit 2 ID Fan 80C..Check bearing too. (RB:FTROTTIE)	CM	2-TE-4850	ID FAN OUTBOARD BEARING TEMPERATURE ELEMENT UNIT 2	Complete
44	12389	Outside doors on control room level don't close all the way, preventing us from getting on at that floor since they can't be closed from inside the cab and also keeps the elevator from going anywhere at all if not closed. (RB:GCOWLEY)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
45	12388	C-PIT-0841-B2 LP roof 2 steam press. in channel failure. If it happens to come in and out will throw off equation in logic for that roof. (RB:LMCDONEL)	CM	C-PIT-0841-B	ACC CELL 3/4 INLET STEAM DUCT STEAM PRESSURE TRANSMITTER B	Complete
46	12387	Labelled on DCS as C-PIT-0841B1 LP roof press. trans. is reading lower than others causing a discrepancy in equation for that roof of ACC. (RB:LMCDONEL)	CM	C-PIT-0841-A	ACC CELL 3/4 INLET STEAM DUCT STEAM PRESSURE TRANSMITTER A	Complete
47	12386	Office side doors on control room level are not closing causing the elevator to get stuck on floor 3. (RB:LMCDONEL)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
48	12385	Fly ash conveyor AH-CV-101 screw conveyor has damaged north end threaded rod supports. 2/26/2020 (RB:JPURCELL)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Complete
49	12384	Elevator on level 1 ,3 and 5 doors . and at level 3 vibration when doors open and elevator cant find floor goes to level 2 jumps then returns to level 1. Please repair (RB:FTROTTIE)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
50	12381	Please repair leak on CCW line top west side of pump (RB:FTROTTIE)	CM	FW-PU-001C	STEAM DRIVEN BFW PUMP C	Complete
51	12376	Please check out crane we have got this fault 2 times DV2 Fault . We have crane parked at west end of pit (RB:FTROTTIE)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete

March, 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
52	12375	Unit 2 sootblowing thermal drain valve not activating "ready". Seems like a possible thermal couple issue. Symptom has been erratic. 2/16/2020 (RB:JPURCELL)	CM	SB-TCV-201	SOOTBLOWER HEADER THERMAL DRAIN VALVE UNIT 2	Complete
53	12374	port for thermocouple has broken away from inlet duct. Please weld back in place to prevent air in leakage (RB:KCOATHAM)	CM	1-TE-4819	CRUDE/CLEAN GAS CHAMBER TEMPERATURE ELEMENT UNIT 1	Complete
54	12373	Port for thermocouple has broken away from duct please weld back on to prevent air in leakage (RB:KCOATHAM)	CM	2-TE-4819	CRUDE/CLEAN GAS CHAMBER TEMPERATURE ELEMENT UNIT 2	Complete
55	12372	Thermocouple port has broken away from hopper please weld back on to prevent air in leakage (RB:KCOATHAM)	CM	1-TE-4843	BAGHOUSE COMPARTMENT 1 HOPPER HEATER TEMPERATURE ELEMENT UNIT 1	Complete
56	12371	Steam leak on MSV-1003 when valve is closed steam comes from top. appears to be from a drilled port where valve was previously gunned to seal packing leak. may stop leaking once valve is opened and back seated. (RB:KCOATHAM)	CM	MS-PIP-COM	MAIN STEAM HEADER PIPING, VALVES AND ATTACHMENTS	Complete
57	12370	level switch low to recirc hopper 1 was removed during welding repair to hopper please reinstall-work completed on install Mar 16 (RB:KCOATHAM)	CM	1-LSL-4781-1	RECIRC FLYASH HOPPER DISCHARGE 1 LEVEL SWITCH LOW UNIT 1	Complete
58	12369	#1 MICC camera had multiple faults from watchdog to high coolant temp and would not insert. please investigate and repair-repaired/rebooted Mar 16 (RB:KCOATHAM)	CM	CM-FN-IR-1	FURNACE IR CAMERA UNIT 1	Complete
59	12368	vibrator for A train does not work please repair/replace (RB:KCOATHAM)	CM	AH-SILO-002	PORTLAND CEMENT STORAGE SILO	Complete
60	12367	during major outage a support bar was lost for holding the top cover plates in position require a new replacement bar to make safe (RB:KCOATHAM)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
61	12366	Watchdog alarm is continually in alarm on #1 Martin MICC please correct/repair (RB:KCOATHAM)	CM	CM-FN-IR-1	FURNACE IR CAMERA UNIT 1	Complete
62	12364	Plattco door has studs broken off or stripped. please repair /replace door studs as necessary (RB:KCOATHAM)	CM	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
63	12363	Plattco door has missing or broken studs, please replace as needed on second pass hopper (RB:KCOATHAM)	CM	2-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 2	Complete
64	12362	Boiler 1 CEMs combustion temperature compliance monitor reading low, port cleaning required. 3/17/2020 (RB:JPURCELL)	CM	BLD-CEM	CEMS ENCLOSURE	Complete
65	12361	Install a receptacle at the base of stairwell #3 for the halo cabinet for plugging in the battery charger for the halo. Part of the Tip Hall safety initiative (RB:KCOATHAM)	CM	120-120	120 V POWER TRANSFORMERS, PANELS AND CIRCUITS	Complete
66	12360	Pressure control valve for sootblower line is not opening unless regulator pressure is increased. It appears to be the same issue we had on unit #2 months ago. Will go up with I&E tomorrow. (RB:LMCDONEL)	CM	RF-BO-101	BOILER UNIT 1	Complete
67	12359	This valve had some metal in it. It is now seized. Rotary valve may need to be disconnected electrically and removed for us to clear things out. (RB:GCOWLEY)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
68	12358	Control Logic not operating properly. When you hold the Extend button the sootblower moves forward. when you take you finger off it at any point the sootblower retracts without touching the retract button. (RB:CSHAFER)	CM	SB-RET-206	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 2	Complete
69	12357	Vacuum Breaker needs to be replaced. Blowing superheated steam into walkway. Probably the most serious one, 124 and 126 are also leaking as well. Thanks (RB:CSHAFER)	CM	SB-ROT-121	ECONOMIZER ROTARY SOOTBLOWER 21 UNIT 1	Complete

March, 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
70	12350	Supply of 40" MITL cut edge with new hardware	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
71	12338	Check B1 ID Fan Inlet temp element TT-4846. Reading 20 deg C higher than BH inlet temp. Reding went high on Feb 19, 2020	CM	1-TT-4846	ID FAN SUCTION FLUE GAS TEMPERATURE TRANSMITTER UNIT 1	Complete
72	12383	install checker plate on grating on 2nd pass plattco valve rod port .To stop ash falling to barn door area. (RB:FTROTTIE)	CMSAF	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
73	12382	Install checker plate on the side of rod door so ash doesn't fall down to barn door. (RB:FTROTTIE)	CMSAF	2-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 2	Complete

April 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	12597	West crane power cable has twist/bulge about 20' up from the top of the grapple. Power cable requires inspection for further damages. 4/27/2020 (RB:JPURCELL)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
2	12596	Electrical issue with the elevator preventing normal operation (RB:KCOATHAM)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
3	12592	replace cracked precleaner hose for clean cabin air, presently taped up (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
4	12591	Residue loader requires bucket scraper bladers to be reversed or replaced please investigate and repair. blades are worn out on scraping edge (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
5	12589	level transmitter HIHI does not clear probe faulty please investigate and repair (RB:KCOATHAM)	CM	C-LSHH-7860A	FLYASH SURGE BIN A LEVEL PROBE HI HI	Complete
6	12581	Door 107 stairwell 1 ground floor the door closer has lost its screws needs to be reattached (RB:KCOATHAM)	CM	BLD-BLR	BOILER BUILDING	Complete
7	12580	Broken latch bottom left side while from the outside . (RB:FTROTTIE)	CM	MOB-SKDSR-1	SKID STEER	Complete
8	12579	Please check out heat tracing on pug mill B we are getting trips due to this. (RB:FTROTTIE)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
9	12578	Its soot blower #128 EL7 unit 1 leaking a lot.Note missing #128 and #129 on people soft for work order. (RB:FTROTTIE)	CM	SB-ROT-127	ECONOMIZER ROTARY SOOTBLOWER 27 UNIT 1	Complete
10	12577	Vacuum breaker leaking. (RB:FTROTTIE)	CM	SB-ROT-116	ECONOMIZER ROTARY SOOTBLOWER 16 UNIT 1	Complete
11	12576	Louder that normal please check out soot blower (RB:FTROTTIE)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete
12	12575	Louder than normal please check out soot blower (RB:FTROTTIE)	CM	SB-ROT-215	ECONOMIZER ROTARY SOOTBLOWER 15 UNIT 2	Complete
13	12574	Baghouse 205 vibrator tripped at panel. Reset and its trips immediately (20/4/2020) (RB:JPURCELL)	CM	AH-VI-205	BAGHOUSE COMPARTMENT 5 HOPPER VIBRATOR UNIT 2	Complete
14	12573	Probe not functioning properly and was coming in and out when level was confirmed not high causing trips. (RB:LMCDONEL)	CM	C-LSHH-7860A	FLYASH SURGE BIN A LEVEL PROBE HI HI	Complete
15	12570	WE got an alarm on the TG screen for "TCP Ventilation fault" This alarm cleared itself right away. I looked in the room down staris and saw no obvious issues. Please check this out in case there is a problem that I can't recognize. gc (RB:GCOWLEY)	CM	TG-G-100	ELECTRIC GENERATOR	Complete
16	12568	Procurement of Check valve for service air compressor as the valve is not holding making standby compressor stay on.	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Complete
17	12567	Please check out 107 solenoid #E156-05C AND E156-07C .Getting bad pluses. (RB:FTROTTIE)	CM	FG-BG-100	BAGHOUSE UNIT 1	Complete
18	12566	Need to replace Magnahelix on dump valve on unit 2 . Its not working correctly (RB:FTROTTIE)	CM	2-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 2	Complete
19	12557	Please check out light from conveyor 7 to grizzly lights are out. (RB:FTROTTIE)	CM	120-EM	EMERGENCY LIGHTS	Complete
20	12556	replace sump pump at bottom of stack (RB:GCOWLEY)	CM	FG-STK-001	FLUE GAS STACK	Complete

21	12553	Would like the sweeper checked for availability to operate as start of season to sweep is here. (RB:KCOATHAM)	CM	MOB-SWEP-1	STREET SWEEPER	Complete
22	12552	Mandoor at Grizzly door closer semi seized (RB:KCOATHAM)	CM	BLD-GRIZ	GRIZZLY BUILDING	Complete
23	12548	Procurement of New SEW gearbox for AH-CV-203.	CM	APCAH-CV-203	BAGHOUSE COMPARTMENT 1/2/3 FLYASH COLLECTION SCREW	Complete
24	12547	suspect leak is around roof penetration leaking into B Fire pump house please repair (RB:KCOATHAM)	CM	HV-FN-018	FIRE PUMP HOUSE POWER ROOF VENTILATOR 18	Complete
25	12543	New fan needed for north air conditioner in electrical room (RB:GCOWLEY)	CM	BLD-STK-ELE	STACK AREA ELECTRICAL BUILDING	Complete
26	12541	For water valve that was replaced (RB:GCOWLEY)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
27	12539	C-LIT-0810A level reading abnormally high in comparison to the other probes. Level column has been blown down a few times but resulted in no changes on C-LIT-0810A output. 4/7/2020 (RB:JPURCELL)	CM	C-LIT-0810-A	CONDENSATE TANK LEVEL TRANSMITTER A	Complete
28	12538	Please replace west side gauge glass on #2 boiler west side . (RB:FTROTTIE)	CM	2-LG-5004	STEAM DRUM WATER COLUMN ASSEMBLY LEVEL SIGHTGLASS UNIT 2	Complete
29	12535	Replace diaphragm on E1 54-03C (RB:KCOATHAM)	CM	FG-BG-106	BAGHOUSE COMPARTMENT 5 UNIT 1	Complete
30	12534	check diaphragm on E252-04C, and E262-10C both are weak and possibly failing (RB:KCOATHAM)	CM	FG-BG-205	BAGHOUSE COMPARTMENT 4 UNIT 2	Complete
31	12533	Replace diaphragm on E256-06C failed (RB:KCOATHAM)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
32	12532	check diaphragms E250-01C and E152-02C questionable weak pulse. (RB:KCOATHAM)	CM	FG-BG-204	BAGHOUSE COMPARTMENT 3 UNIT 2	Complete
33	12531	Please check out transmitter for some reason the transmitter has reset and showing 0 for total use from 97143 to 0 . please check out .Thanks (RB:FTROTTIE)	CM	1-FIT-3601	AUXILIARY BURNER NATURAL GAS FLOW TRANSMITTER UNIT 1	Complete
34	12527	Getting Alarm on left tower high humidity. Please check (RB:FTROTTIE)	CM	SA-AD-001	INSTRUMENT AIR DRYER	Complete
35	12526	Please check out #3 solenoid on wet mixer 101 side . no power or solenoid is shot. (RB:FTROTTIE)	CM	FG-DSM-101	RECIRC FLYASH MIXER 1 UNIT 1	Complete
36	12525	Steam leak around shaft .Area has been taped off, (RB:FTROTTIE)	CM	SB-ROT-121	ECONOMIZER ROTARY SOOTBLOWER 21 UNIT 1	Complete
37	12524	small leak around shaft. (RB:FTROTTIE)	CM	SB-RET-201	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 2	Complete
38	12523	Loud steam leak at shaft connection. (RB:FTROTTIE)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete
39	12521	Rebuild of Actuator for Pressure Control Valve for Soot Blower Unit 1.	CM	SB-RET-101	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 1	Complete
40	12520	main vibrating conveyor 7 has intermittent noise coming from shaker drive area. noticed excessive grease around south bearing on shaker. 4/5/2020 (RB:JPURCELL)	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Complete
41	12515	Air leak on seal for outlet damper cylinder behind 204 cover plate. See picture attached (RB:KCOATHAM)	CM	FG-BG-204	BAGHOUSE COMPARTMENT 3 UNIT 2	Complete
42	12514	replace diaphragm on E14609C (RB:KCOATHAM)	CM	FG-BG-102	BAGHOUSE COMPARTMENT 1 UNIT 1	Complete
43	12513	replace diaphragm on E150-02C, also check E150-08C weak possibly leaking (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
44	12512	replace diaphragm on E152-10C, also check questionable ones E152-05C and E152-06C (RB:KCOATHAM)	CM	FG-BG-105	BAGHOUSE COMPARTMENT 4 UNIT 1	Complete

45	12506	To perform leak repair on boiler left wall bottom header drain pipe unit 1.	CM	RF-BO-101	BOILER UNIT 1	Complete
46	12505	South bottom ash bunker, south wall has been impacted by the loader bucket chipping away the concrete exposing rebar, the rebar is bent outward into the bay please cut off and resurface the bay wall if found necessary. (RB:KCOATHAM)	CM	BLD-RES	RESIDUE BUILDING	Complete
47	12504	Rotary valve shaft key way is "rounded" on its edges. Sprocket was replaced having same issue but shaft may need attention. (RB:LMCDONEL)	CM	AH-BIN-001B	FLYASH SURGE BIN B	Complete
48	12540	West Door 605 going out onto Charging Deck will not open from either side. Please investigate / repair (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
49	12530	Please install emergency eyewash (facet mounted) in the lab. Unit is in FSC office. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
50	12508	Extend demineralized water storage tank portable fill connection down to ground level to eliminate working from heights	CMSAF	DW-TK-001	BOILER MAKE-UP WATER STORAGE TANK	Complete
51	12598	Scaffolding work for TG area light replacement above feed water pumps	CM	120-BLD-LGT	120 V INDOOR BUILDING AND SITE LIGHTING, TRANSFORMERS, PANELS AND CIRCUITS	Work Finished
52	12584	Troubleshoot and replace tamper switch alarm on fire pump discharge.	CM	FP-PLC-001A	FIRE WATER DIESEL PUMP A CONTROLLER	Work Finished
53	12555	Heat tracing for surge bin (RB:GCOWLEY)	CM	AH-BIN-001B	FLYASH SURGE BIN B	Work Finished
54	12536	WE need to order 20 paddles for pug mill .We only have 3 left. (RB:FTROTTIE)	CM	AH-MIX-001A	FLYASH PUGMILL A	Work Finished
55	12507	Procurement of spares for Air Compressor Service.	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Work Finished
56	12633	NH3 OOC 2x on unit 2	CMENV	2-AE-4739	STACK AMMONIA ANALYZER UNIT 2	Complete
57	12632	HCL 4x out Unit #1 (RB:LMCDONEL)	CMENV	1-STK-PRB	STACK CEMS SAMPLE PROBE UNIT 1	Complete
58	12631	O2 Dry and O2 wet 4x out Unit #1 (RB:LMCDONEL)	CMENV	1-STK-PRB	STACK CEMS SAMPLE PROBE UNIT 1	Complete
59	12630	CO2 outlet and CO2-hi-out 4x out (RB:LMCDONEL)	CMENV	1-STK-PRB	STACK CEMS SAMPLE PROBE UNIT 1	Complete
60	12629	CO -Hi failed calibration and CO low failed morning calibration as well please adjust accordingly (RB:KCOATHAM)	CMENV	1-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 1	Complete
61	12601	THC on unit 2 out of control (RB:FTROTTIE)	CMENV	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
62	12588	Analyzer failed calibration 2X out for April 25 /20 service required (RB:KCOATHAM)	CMENV	1-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 1	Complete
63	12587	Analyzer failed calibration 4x out on April 26/20 (RB:KCOATHAM)	CMENV	1-AE-4738	STACK NOX ANALYZER UNIT 1	Complete
64	12585	CO failed calibration 4x out for april 26/20 (RB:KCOATHAM)	CMENV	1-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 1	Complete
65	12558	Please remove and exchange the AMESA trap and pieces in Unit 1 on Thursday, April 16, 2020 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
66	12554	Please remove and exchange the AMESA trap and pieces in Unit 2 on Thursday, April 16, 2020 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete

May 2020 Corrective Maintenance

#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	12730	Replace HMI screen on HLC for unit 2 O/L	CMENV	2-STK-LN	STACK CEMS SAMPLE LINES UNIT 2	Complete
2	12738	vibrator not working on bag house 206 (RB:FTROTTIE)	CM	AH-VI-205	BAGHOUSE COMPARTMENT 5 HOPPER VIBRATOR UNIT 2	Complete
3	12731	Procurement of induction heater for the bearings.	CM	IGR-FN-102	IGR FAN UNIT 1	Complete
4	12729	carbon offload baghouse blower system not engaging - possible valve positioner issue (May 12/2020) (RB:JPURCELL)	CM	CF-PNL-1	ACTIVATED CARBON TRUCK UNLOADING PANEL	Complete
5	12728	solenoid not working compartment 6 solenoid 3 , E154-02C, please repair (RB:KCOATHAM)	CM	FG-BG-106	BAGHOUSE COMPARTMENT 5 UNIT 1	Complete
6	12727	solenoid 1 compartment 205 not working E252-01C, please repair (RB:KCOATHAM)	CM	FG-BG-205	BAGHOUSE COMPARTMENT 4 UNIT 2	Complete
7	12726	Please check out air pre heater D/P to see if this is a correct reading on the DCS. Also the air filter D/P is reading 105% after we have been changing the air filter on unit 2. (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
8	12725	Boiler 1 opacity failed morning calibration (may 17) (RB:JPURCELL)	CM	1-AIT-4711	OPACITY MONITOR UNIT 1	Complete
9	12724	Plant telephone network not working correctly. issues receiving and placing calls (may 16) (RB:JPURCELL)	CM	COM-PHONE	TELEPHONE SYSTEM	Complete
10	12721	Pozzolan Train B inside silo: Missing foam stopper to prevent Pozzolan from escaping - plug with suitable material (RB:AHUXTER)	CM	AH-KG-002B	POZZOLAN STORAGE SILO DISCHARGE HOPPER B KNIFE GATE VALVE	Complete
11	12720	Boiler #1 Econo bypass valve has been found switching itself to manual. Not sure what would cause this but it has been effecting back end temps at times. (RB:LMCDONEL)	CM	1-TCV-4211	ECONOMIZER WATER BYPASS TEMPERATURE CONTROL VALVE UNIT 1	Complete
12	12719	Micc camera on unit #2 has purge air alarm coming in. (RB:LMCDONEL)	CM	CM-FN-IR-2	FURNACE IR CAMERA UNIT 2	Complete
13	12710	When crane goes all the way to it's west limit the contactor trips and crane needs to have contactor turned on again. (RB:LMCDONEL)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
14	12709	West side of under fire air on zone 4 welded patch weld has now got a two inch gap and leaking under fire air from patch repair. Photos attached. (RB:FTROTTIE)	CM	RF-BO-101	BOILER UNIT 1	Complete
15	12708	Please replace the first hanger bearing (north) top is broken (RB:KCOATHAM)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Complete
16	12707	Temperature prob 2-TE-5228 has failed and 2-TVC-5228 is in mode lock RF-BO-201 5228 temperature rob failure. (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
17	12706	Residue loader bucket cracks that needed welding . Please see attached Photos. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
18	12705	LP street west side cable penetration DCS Sealtite has wear from vibrations.	CM	CD-AC-0013	ACC CELL 3	Complete
19	12704	Boiler 1 APC quench tower outlet temperature probe 1-TT-4763-3 has failed and is forced. (May 3) (RB:JPURCELL)	CM	1-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 1	Complete

May 2020 Corrective Maintenance

#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
20	12703	Boiler 1 APC recirc hopper temperature probe (left side) 1-TT-4783-2 has failed and has been forced. (May 3) (RB:JPURCELL)	CM	1-TT-4783-2	RECIRC FLYASH HOPPER DISCHARGE 2 TEMPERATURE TRANSMITTER UNIT 1	Complete
21	12702	Broken power supply to solenoid for air to top plattco valve dump. Plugged air to dump valve so valve is open and bottom plattco valve is in Auto. (RB:FTROTTIE)	CM	2-HV-7805	ECONOMIZER HOPPER A1 DOUBLE DUMP VALVE UNIT 2	Complete
22	12699	% inch line is broken coming off #2 boiler Ecom to lime slurry system .Photos attached .May be sucking air to #2 boiler. (RB:FTROTTIE)	CM	LI-PIP-2	HYDRATED LIME PIPING, VALVES AND ATTACHMENTS UNIT 2	Complete
23	12736	Replace Bearings for PugMill B.	CM	AH-MIX-001B	FLYASH PUGMILL B	Work Finished
24	12735	Provide manpower including supply of material for cladding work of recir hopper unit 1 &2	CM	AH-TK-101	RECIRC FLYASH HOPPER UNIT 1	Work Finished
25	12732	Replace Broken Fly Ash Screw 003B found during PM.	CM	AH-CV-003B	RESIDUE BUILDING FLYASH SCREW CONVEYOR 3B	Work Finished
26	12698	Bolt broken by 2nd passs hopper to A1 hopper for shaft. and also bearing gone. Also conveyor 101 is down. (RB:FTROTTIE)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Work Finished

June 2020 Corrective Maintenance

#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	12894	Tipping Hall loader has an alarm in "DPF Ash Load High E97-1" please investigate diesel fuel particulate filters fouling. Service call may be required (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
2	12893	Actual Transmitter is 2-PIR-3936-2. Pressure in zone 1 on run 2 of boiler 2. It will show a weak pressure but then 0 out. It is still calculating the proper flow and damper position is on par with run 1. We have checked and hopper is clear. (RB:LMCDONEL)	CM	2-PIT-4203	UNDERGRATE AIR HEADER PRESSURE TRANSMITTER UNIT 2	Complete
3	12892	Allen Bradley PanelView C400 no visible screen which controls the slag and cement systems. Has power to the inside control box. shows a fault. please replace Panelview. as system is unable to operate. (RB:KCOATHAM)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
4	12891	Please put chicago fittings on hose. (RB:GCOWLEY)	CM	BLD-BLR	BOILER BUILDING	Complete
5	12890	Please replace air hose wheel and air hose by # 10 conveyor. Wheel will not lock into position and hose has a leak if repair hose will be too short to reach working area. (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Complete
6	12889	Air conditioning unit for west crane is not working will not reset or power up. Panel is being cooled by fan temporarily (RB:KCOATHAM)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
7	12888	investigate erratic flow on waste water pump A possibly strainer or internal pump issue. (RB:KCOATHAM)	CM	WW-PU-001A	WASTE WATER PUMP A	Complete
8	12887	blue bin attachment for the fork lift has a broken hinge requiring to be repaired (RB:KCOATHAM)	CM	MOB-FKLT-1	FORKLIFT TOYOTA	Complete
9	12886	Please replace east gauge glass . (RB:FTROTTIE)	CM	RF-BO-101	BOILER UNIT 1	Complete
10	12885	Please replace east gauge glass unit 2. (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
11	12884	Motor fault on 1-UA-4873 .WE check motor running slow and faulting out. (RB:FTROTTIE)	CM	LI-PIP-1	HYDRATED LIME PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
12	12883	Can E&I check position of damper of the air pre heater on unit 2 to the DCS . Think controller is not reading correct. (RB:FTROTTIE)	CM	2-PDIT-4220	STEAM COIL AIR PREHEATER DIFFERENTIAL PRESSURE TRANSMITTER UNIT 2	Complete
13	12877	Overhaul & Re-build Pug Mill A including relocating the VFD drives back in MCC PDU.	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
14	12874	Conveyor trips out when rod 2nd pass .Speed sensor is showing lo speed on DCS. (RB:FTROTTIE)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
15	12873	baghouse compartment 107 lid stud bolt (east) damaged and needs to be replaced. (June 9) (RB:JPURCELL)	CM	FG-BG-107	BAGHOUSE COMPARTMENT 6 UNIT 1	Complete
16	12872	Residue Loader arm pin for bucket hold down bolt broken again. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
17	12871	solenoid #2 cell 105 diaphragm suspect of failing E152-02C please verify function (RB:KCOATHAM)	CM	FG-BG-105	BAGHOUSE COMPARTMENT 4 UNIT 1	Complete

June 2020 Corrective Maintenance

#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
18	12870	Speed low coming in tripping off conveyor. On inspection screw appeared to be running normally. (RB:LMCDONEL)	CM	AH-CV-003B	RESIDUE BUILDING FLYASH SCREW CONVEYOR 3B	Complete
19	12869	West HVAC not blowing cold air. (RB:FTROTTIE)	CM	BLD-ACC-MCC	ACC ELECTRICAL MCC ENCLOSURE	Complete
20	12868	Not running full speed when loaded. Belts may be slipping. (RB:GCOWLEY)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
21	12866	TT-4769-2 thermo couple reading high (+6 deg C) compared to TT-4769-1 and TT-4769-3. Please inspect and repair. (RB:MNEILD)	CM	1-TT-4769-2	REACTOR CHAMBER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 2 UNIT 1	Complete
22	12865	Replace (RB:GCOWLEY)	CM	1-TT-4769-2	REACTOR CHAMBER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 2 UNIT 1	Complete
23	12864	Door # 148 is impossible to open and door # 104 is getting difficult to open. (RB:GCOWLEY)	CM	BLD-BLR	BOILER BUILDING	Complete
24	12863	Solenoid diaphragm needs changing out on E156-03C (RB:FTROTTIE)	CM	FG-BG-107	BAGHOUSE COMPARTMENT 6 UNIT 1	Complete
25	12861	3inch nipple and cap need replacement air leakage taped up to stop leak (RB:FTROTTIE)	CM	FG-BG-103	BAGHOUSE COMPARTMENT 2 UNIT 1	Complete
26	12860	please investigate erratic pressure swings on transmitter, PIT-4211, adjust, calibrate or replace as required (RB:KCOATHAM)	CM	1-PIT-4211	IGR FAN DISCHARGE HEADER LEFT FLUE GAS PRESSURE TRANSMITTER UNIT 1	Complete
27	12854	Boiler 2 second pass Plattco expansion joint has hole	CM	RF-SP-201	SECOND PASS UNIT 2	Complete
28	12853	baghouse 2 outlet damper 204 air cylinder seal blown out	CM	FG-BG-202	BAGHOUSE COMPARTMENT 1 UNIT 2	Complete
29	12847	Please repair grounding strap hook broken off cable. hook is on ledge of pozz and cement control panel (RB:FTROTTIE)	CM	C-FSH-2308	PORTLAND CEMENT/POZZOLAN SILOS SAFETY SHOWER/EYEWASH STATION FLOW SWITCH HI	Complete
30	12844	Tip Hall- north east corner second row light is out (RB:KCOATHAM)	CM	BLD-PIT	REFUSE PIT	Complete
31	12843	this conveyor tripped and the ones upstream did not shut down like they are supposed to. (RB:GCOWLEY)	CM	AH-CV-205	BOILER /APC FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Complete
32	12842	Emergency screw for #1, the rotary valve will not move. Tried a few different things to get it to move, no luck. Please check it out. (RB:GCOWLEY)	CM	AH-RV-104	BAGHOUSE FLYASH COLLECTION SCREW CONVEYOR S1.6 DISCHARGE ROTARY VALVE UNIT 1	Complete
33	12840	no image (RB:JPURCELL)	CM	2-AIT-4711	OPACITY MONITOR UNIT 2	Complete
34	12839	Residue loader bucket pin came out . needs to be fasten on the left side. otherwise pin may come out again .Photos attached with pin in place .Hold down bolt broken. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
35	12838	Alarm left side high humidity (RB:FTROTTIE)	CM	SA-AD-001	INSTRUMENT AIR DRYER	Complete
36	12837	Cisco network switch replacement. (R.McComb has already completed) (RB:LMCDONEL)	CM	1-CEM-POL	CEM POLLING COMPUTER UNIT 1	Complete
37	12836	Pug mill B .When rotary valve trip it shuts off water. But the pozz. And cement and pug mill keeps running.. (RB:FTROTTIE)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
38	12835	Fire door to turbine deck missing latch and will not close (RB:JPOMFRED)	CM	BLD-TG	TURBINE BUILDING	Complete
39	12834	Steam leak loud (RB:FTROTTIE)	CM	SB-ROT-217	ECONOMIZER ROTARY SOOTBLOWER 17 UNIT 2	Complete
40	12833	Slow gauge showing only 90 psi. (RB:FTROTTIE)	CM	SB-ROT-212	ECONOMIZER ROTARY SOOTBLOWER 12 UNIT 2	Complete
41	12832	Loud leak at packing gland (RB:FTROTTIE)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete

June 2020 Corrective Maintenance

#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
42	12831	Steam and water leak at gasket and lance. (RB:FTROTTIE)	CM	SB-RET-201	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 2	Complete
43	12830	Slow gauge on showing 50 PSI. (RB:FTROTTIE)	CM	SB-ROT-124	ECONOMIZER ROTARY SOOTBLOWER 24 UNIT 1	Complete
44	12829	50 PSI shot ycle. (RB:FTROTTIE)	CM	SB-ROT-117	ECONOMIZER ROTARY SOOTBLOWER 17 UNIT 1	Complete
45	12828	only 50 psi Short cycle (RB:FTROTTIE)	CM	SB-ROT-116	ECONOMIZER ROTARY SOOTBLOWER 16 UNIT 1	Complete
46	12825	Pugmill A motor has shifted from original location. Motor mount possibly damaged. (May 30) (RB:JPURCELL)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
47	12824	HVAC north faulting and south HVAC is running (RB:FTROTTIE)	CM	BLD-STK-ELE	STACK AREA ELECTRICAL BUILDING	Complete
48	12823	Tipping floor loader bucket rubber scrapper worn out. As indicated on loader inspection. (June 1) (RB:JPURCELL)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
49	12822	Facility camera loss at 01:30 (June 2) for over 1hr. Took several system reboots to get going. (RB:JPURCELL)	CM	TV-CAM-SEC	SECURITY CAMERAS	Complete
50	12821	control room lighting monitor weather station computer internet not working (June 2) (RB:JPURCELL)	CM	BLD-CM	CONTROL ROOM	Complete
51	12820	solenoid E246-09C not working nees new diaphragm. (RB:FTROTTIE)	CM	FG-BG-202	BAGHOUSE COMPARTMENT 1 UNIT 2	Complete
52	12819	Please replace solenoid diaphragm on E256-06C (RB:FTROTTIE)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
53	12818	Please replace solenoid diaphragm on E256-07C (RB:FTROTTIE)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
54	12817	lighting in bay 3 does not work please repair, hit by nightshift loader operator and damaged however light was not working at that time (RB:KCOATHAM)	CM	BLD-RES	RESIDUE BUILDING	Complete
55	12816	Hydraulic hose on jackhammer attachment blew off and one of the connection latches is broken. (RB:LMCDONEL)	CM	MOB-SKDSR-1	SKID STEER	Complete
56	12815	Hydraulic oil is leaking from bit connection port while in operation. (RB:LMCDONEL)	CM	MOB-SKDSR-1	SKID STEER	Complete
57	12814	Feed chute damper will not move. It is in the open position and we cannot close it. (RB:GCOWLEY)	CM	RF-GR-201	STOKER UNIT 2	Complete
58	12813	Compressor B change oil filter alarm active (RB:JPURCELL)	CM	SA-AC-001B	SERVICE AIR COMPRESSOR B	Complete
59	12812	Compressor A change oil filter alarm active (RB:JPURCELL)	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Complete
60	12811	2-PIC-4203 boiler 2 combustion air pressure control is causing the combustion air damper to open above 90%. new filter has been installed and screen lanced off (RB:JPURCELL)	CM	2-PIC-4203	COMBUSTION AIR PRESSURE INDICATING CONTROL STATION UNIT 2	Complete
61	12810	On the morning of June 12, 2020 please assist Ortech with electrical hook up for stack testing (RB:AHUXTER)	CM	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
62	12809	IR camera unit 2 (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
63	12808	The wheeled stopper on the entrance gate has come off. (RB:AHUXTER)	CM	SEC-GT-FRT	FRONT GATE	Complete
64	12807	Temperature element appears to have failed. Sitting at 850 C (RB:LMCDONEL)	CM	1-TE-4844	BAGHOUSE COMPARTMENT 2 HOPPER HEATER TEMPERATURE ELEMENT UNIT 1	Complete

June 2020 Corrective Maintenance

#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
65	12806	bucket cracks since repair see photo's right side when looking at loader. please repair (RB:KCOATHAM)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
66	12849	On 17-Jun, remove AMESA trap, glass tube, union, nozzle and titanium bend on Unit 1 and replace AMESA trap only (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
67	12848	On 17-Jun, remove and exchange AMESA trap, glass tube, union, nozzle and titanium bend on Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete

July 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	13047	Lime silo level transmitter reading 0, please investigate and make operational. (RB:KCOATHAM)	CM	C-LIT-4755	HYDRATED LIME SILO LEVEL TRANSMITTER	Complete
2	13034	This machine is not unloading or shutting off when it is on auto. Keeping the air pressure over 130 PSI. Had to put compressor "A" on auto to keep the pressure (RB:GCOWLEY)	CM	SA-AC-001B	SERVICE AIR COMPRESSOR B	Complete
3	13045	low steam pressure. (RB:FTROTTIE)	CM	SB-ROT-221	ECONOMIZER ROTARY SOOTBLOWER 21 UNIT 2	Complete
4	13046	Boiler 1 UFA damper in zone 4 cycling continuously and not maintaining setpoint (June 16) (RB:JPURCELL)	CM	RF-GR-2011	STOKER GRATE RUN 1 UNIT 2	Complete
5	13042	Please check motor and gear box end seams to be loose after rpair. (RB:FTROTTIE)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
6	13044	Knife gate not closing please check (RB:FTROTTIE)	CM	AH-KG-001A	FLYASH SURGE BIN A KNIFE GATE VALVE	Complete
7	13043	Please check out surge bin A n west side for cracks .We are bridging up on this side and may have a crack in the bin (RB:FTROTTIE)	CM	AH-BIN-001A	FLYASH SURGE BIN A	Complete
8	13032	non ferrous vibrating screen conveyor (AH-CV-012) has holes in the first screen and will need replaced (July 21) (RB:JPURCELL)	CM	AH-CV-012	NON-FERROUS VIBRATING SCREEN CONVEYOR	Complete
9	13012	#1 Ash discharger will not stroke full length, possibly jammed or hydraulic issue on system. (RB:KCOATHAM)	CM	SR-DC-101	ASH DISCHARGER UNIT 1	Complete
10	13011	Please repair top fitting on copper line to ball valve leaking air. (RB:FTROTTIE)	CM	C-FV-3015-1	WASTE WATER HOLDING TANK AUTOMATIC DRAIN VALVE	Complete
11	13000	Rotary valve is not moving. Seized up. needs attention. (RB:FTROTTIE)	CM	AH-RV-104	BAGHOUSE FLYASH COLLECTION SCREW CONVEYOR S1.6 DISCHARGE ROTARY VALVE UNIT 1	Complete
12	13006	Chemical pump RL124 left hand pump leaking at pump diaphragm (RB:FTROTTIE)	CM	RO-SKD-2	RO FEED PUMP SKID	Complete
13	13008	Pugmill A complete Overhaul.	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
14	13013	Make noise in motor area .Please check it out. (RB:FTROTTIE)	CM	MOB-SKDSR-1	SKID STEER	Complete
15	13001	Emergency call in for HVAC unit for MCC cabinet for Kone Crane	CM	HV-AC-002	ADMIN BUILDING AREA HVAC UNIT 2	Complete
16	13005	lighting very bad in fly ash bay 3 (RB:GCOWLEY)	CM	BLD-RES	RESIDUE BUILDING	Complete
17	13004	Feedback for amperage and remote/local not working. (RB:LMCDONEL)	CM	CD-FN-004M	ACC CELL 4 FAN MOTOR	Complete
18	12998	please check lime silo level showing 5% is in error transmitter may require checking (RB:KCOATHAM)	CM	C-LIT-4755	HYDRATED LIME SILO LEVEL TRANSMITTER	Complete
19	12999	please inspect east lifting cable. Appears to have 1 strand starting to separate, operations monitoring at present (RB:KCOATHAM)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete

August 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	13424	Please replace studs on hand rail around settling basin. In latest cleaning of settling basin 2 were cut off noted 8 require replacing. (RB:KCOATHAM)	CM	WW-TK-002	WASTE WATER SETTLING BASIN	Complete
2	13430	unit 1 and 2 carbon feeder no start trip reset all carbon feeder for panel still no start .Reset lime on both unit carbon started back up (RB:FTROTTIE)	CM	2-AE-4745	STACK CARBON MONOXIDE ANALYZER UNIT 2	Complete
3	13431	Residue loader no power to front wheels (RB:FTROTTIE)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
4	13429	DCS screen #8 frozen (RB:FTROTTIE)	CM	BLD-CM	CONTROL ROOM	Complete
5	13416	Residue loader rear hood not latching. some damage on the hood. June 29/2020 (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
6	13419	South chair not working No power (RB:GCOWLEY)	CM	RF-PULP	REFUSE CRANE PULPIT	Complete
7	13415	west crane D2V fault came in, reset/cleared then came in again crane parked. (RB:KCOATHAM)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
8	13421	Auto greaser on #2 Martin stoker tripped, please check for cause. (RB:KCOATHAM)	CM	RF-PU-202	STOKER GREASE PUMP UNIT 2	Complete
9	13420	control room DCS screen 5 and 6 computer screens froze (July 6/2020) (RB:JPURCELL)	CM	DCS-CAB	DCS PCU CABINETS	Complete
10	13440	Air cannons on second pass hoppers timers are different between unit 1 & 2 please make adjustments so both are firing at 1 minute intervals (RB:KCOATHAM)	CM	1-HV-7801	SECOND PASS HOPPER DUMP VALVE UNIT 1	Complete
11	13441	As per Matts request • Drill hole (and install rubber grommet) to run halo light charger inside cabinet. stairwell 3 ground floor (RB:KCOATHAM)	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Complete
12	13439	Please fill batteries low on water and check voltage .and charge batteries. (RB:FTROTTIE)	CM	DG-1	STANDBY DIESEL ELECTRICAL GENERATOR	Complete
13	13447	scraper blade has become loose on loader bucket please check for missing bolts and tighten. Residue Operator tried to tighten (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
14	13448	Please repair hold is hopper for bag house 103 (RB:FTROTTIE)	CM	FG-BG-103	BAGHOUSE COMPARTMENT 2 UNIT 1	Complete
15	13442	Steam side isolation valve on east sight glass slight leak. Appears to be at the stem of valve. (RB:LMCDONEL)	CM	1-LG-5006	STEAM DRUM WATER LEVEL SIGHTGLASS UNIT 1	Complete
16	13435	Lighting - Change out fluorescent tubes / fixture located at bottom of stairwell 3 (by lunchroom) (RB:MNEILD)	CM	120-BLD-LGT	120 V INDOOR BUILDING AND SITE LIGHTING, TRANSFORMERS, PANELS AND CIRCUITS	Complete
17	13432	Residue loader seat belt inspection required. Seat belt shoulder retractable locking mechanism not always locking. Intermittent issue (July 14) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
18	13438	Check upper seal on AH-CV-204 leaking ash. (RB:FTROTTIE)	CM	AH-CV-204	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 2	Complete
19	13437	admin door 104 to plant RO area not opening (July 21) (RB:JPURCELL)	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Complete
20	13378	Electrical outlet faceplate on elevation 23 is broken exposing wires.	CM	ELECT SUP	ELECTRICAL SUPPLIES 71240	Complete
21	13385	Replace blown out wind sock on top of water tank. Spare sock is on the cabinet outside my office. If you need posts or sock bracket, they are beside cabinet. (RB:AHUXTER)	CM	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

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Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
22	13386	Non drive end bearing noise on east side, please inspect and replace if required (RB:KCOATHAM)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
23	13384	Moving bridge east to west making a noise .Please check may be a bearing . On the north side of the bridge.making a humming noise (RB:FTROTTIE)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
24	13366	Air cannon on second pass, air pressure gauge not working needs replacing (RB:KCOATHAM)	CM	RF-SP-201	SECOND PASS UNIT 2	Complete
25	13367	Air cannon firing has no indication as to when it is going off request a count down timer be installed at the location on both units (RB:KCOATHAM)	CM	RF-SP-101	SECOND PASS UNIT 1	Complete
26	13371	shaft is broken at the first hanger bearing from the motor (near the top) (RB:GCOWLEY)	CM	AH-CV-002B	MAIN FLYASH TRANSPORT SCREW CONVEYOR 2B	Complete
27	13370	fault on rotary valve, power supply failed please repair (RB:KCOATHAM)	CM	AH-RV-001A	FLYASH PUGMILL A ROTARY FEEDER	Complete
28	13400	This vibrator does not vibrate the bin hard enough to keep ash flowing. Please check out. (RB:GCOWLEY)	CM	AH-VIB-003A	FLYASH SURGE BIN A HOPPER VIBRATOR	Complete
29	13411	Boiler 2 stoker computer had to be rebooted due to micc camera watchdog (June 17) (RB:JPURCELL)	CM	RF-GR-201	STOKER UNIT 2	Complete
30	13414	Service request is for a Schniders APC UPS battery supply that has failed in IT room by lunchroom (RB:KCOATHAM)	CM	120-UPSP-1C	120 V UPS POWER PANEL UPSP-1C T/G AND MISC	Complete
31	13408	Investigate if the missing bolts on the A3 fan carriage connecting to I beam are loose and possibly causing a false vibration HIHI to come in. Replace bolts or tighten as necessary. Missing bolts are visible from below (RB:KCOATHAM)	CM	CD-FN-003	ACC CELL 3 FAN	Complete
32	13389	Please replace probe. Probe failed (RB:FTROTTIE)	CM	1-TT-4748	EVAPORATIVE COOLER INLET FLUE GAS TEMPERATURE TRANSMITTER UNIT 1	Complete
33	13387	blue dump bin used at grizzly by forklift has a faulty latching mechanism for moving slag and concrete blocks. (RB:KCOATHAM)	CM	MOB-FKLT-1	FORKLIFT TOYOTA	Complete
34	13392	blue bin for forklift has a broken latch and requires a quick weld to secure the spring to the bucket for the latching mechanism. will need for outage (RB:KCOATHAM)	CM	MOB-FKLT-1	FORKLIFT TOYOTA	Complete
35	13482	RL 1303 pump ""A" not working. Please repair/replace (RB:GCOWLEY)	CM	RO-SKD-1	RO SKID	Complete
36	13483	rotary valve not working (RB:GCOWLEY)	CM	AH-RV-001A	FLYASH PUGMILL A ROTARY FEEDER	Complete
37	13481	Under-fire air zone 4 is locked in position stuck at 100 % open. Solenoid in panel for martin top for zone 4 disconnected. iit calling for damper to open. please check out (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
38	13487	Please check control and heating pads for surge bin A we are bridging on the west side of bin. (RB:FTROTTIE)	CM	C-TIC-7892A	FLYASH SURGE BIN A TEMPERATURE CONTROLLER	Complete
39	13484	Monthly checks done, List will be forwarded to Randy. (RB:GCOWLEY)	CM	120-EM	EMERGENCY LIGHTS	Complete
40	13477	compressed air line at top of conveyor 9, adjacent to the doghouse needs repair or replacing (RB:GCOWLEY)	CM	BLD-RES	RESIDUE BUILDING	Complete
41	13478	Spare APC quench lance requires shroud repair (Aug 3/2020) (RB:JPURCELL)	CM	FG-LAN-101	EVAPORATIVE COOLER ATOMIZING LANCE UNIT 1	Complete

August 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
42	13476	West wall of Tipping Hall has been struck by the loader bucket. Wall cladding needs to be reattached by the recycles sign. (RB:KCOATHAM)	CM	BLD-BLR	BOILER BUILDING	Complete
43	13479	Please check out water solenoids north no water only south has flow. (RB:FTROTTIE)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete
44	13496	Vibration hi-hi causing trip (RB:LMCDONEL)	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Complete
45	13495	Tipping hall loader remotes for east and west doors are missing button and hard to operate. Please replace. Also Micc may need to be replaced or CB antenna some MSW cannot hear instructions (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
46	13499	Loss in weight leaking lime from seal by appearance onto erating please inspect and repair as necessary (RB:KCOATHAM)	CM	1-WE-4873	HYDRATED LIME LOSS IN WEIGHT FEEDER LOAD CELL UNIT 1	Complete
47	13489	APC #2 baghouse compartment 206 #5 pulse solenoid not always firing off and sounds dead (Aug 3/2020) (RB:JPURCELL)	CM	IA-PCV-2005	BAGHOUSE COMPARTMENT 4/5/6 PULSE VALVE COMPRESSED AIR HEADER PRESSURE REGULATOR UNIT 2	Complete
48	13490	Tipping floor loader in residue .Right rear wheel fender cracked and missing steering wheel center piece as in photos attached. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
49	13488	Please see attach word doc for july 2020 exit sign that need repairing. (RB:FTROTTIE)	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Complete
50	13455	Steam leaking along shaft on 1st pass (RB:FTROTTIE)	CM	SB-RET-203	EVAPORATOR RETRACTABLE SOOTBLOWER 3 UNIT 2	Complete
51	13456	Load steam out of pressure releaf valve. (RB:FTROTTIE)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete
52	13454	Steam leaking along shaft. on 1st pass (RB:FTROTTIE)	CM	SB-RET-206	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 2	Complete
53	13459	Please check out prob and repair not getting alarm on DCS for low level onsurge bin A (RB:FTROTTIE)	CM	C-LSL-7862A	FLYASH SURGE BIN A LEVEL PROBE LOW	Complete
54	13461	#2 APC recirc hopper level probe reading level low and level normal. DCS tag number: 2-LAL-4781-1. (july 27/2020) (RB:JPURCELL)	CM	2-LSL-4782-1	RECIRC FLYASH HOPPER DISCHARGE 1 LEVEL SWITCH LOW UNIT 2	Complete
55	13458	Tipping floor loader right hand side mirror bracket damaged. (RB:FTROTTIE)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
56	13450	Making load noise. (RB:FTROTTIE)	CM	SB-ROT-115	ECONOMIZER ROTARY SOOTBLOWER 15 UNIT 1	Complete
57	13451	low steam pressure 110 psi (RB:FTROTTIE)	CM	SB-RET-201	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 2	Complete
58	13453	low steam pressure. (RB:FTROTTIE)	CM	SB-RET-205	SUPERHEATER 3 RETRACTABLE SOOTBLOWER 5 UNIT 2	Complete
59	13452	leak along shaft on 1st pass (RB:FTROTTIE)	CM	SB-RET-202	EVAPORATOR RETRACTABLE SOOTBLOWER 2 UNIT 2	Complete
60	13472	Lime feeder unit 1 leaking seal from motor to screw inside lime shack rubber sleeve is leaking lime inside shack when running. (RB:FTROTTIE)	CM	LI-PIP-1	HYDRATED LIME PIPING, VALVES AND ATTACHMENTS UNIT 1	Complete
61	13470	Pump is faulting out. not finishing cycle on ash discharge sequence. several times faulting out. (RB:FTROTTIE)	CM	RF-PU-202	STOKER GREASE PUMP UNIT 2	Complete
62	13475	APC quench outlet temp probe not reading correctly. 2-TT-4763-2 (Aug 8/2020) (RB:JPURCELL)	CM	2-TT-4763-2	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 2 UNIT 2	Complete
63	13473	carbon silo bag house stops working during auto cycles, please investigate for control issue. (RB:KCOATHAM)	CM	CF-SO-C01	ACTIVATED CARBON SILO	Complete

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Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
64	13463	Large hole in screen (RB:GCOWLEY)	CM	AH-CV-012	NON-FERROUS VIBRATING SCREEN CONVEYOR	Complete
65	13462	east crane grapple hydraulics moving slowing on grapple (July 29) (RB:JPURCELL)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
66	13469	Please check out power wash in residue leaking at pump seals. (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Complete
67	13468	Trap door on the rotary valve is broken. Duct taped closed for now (RB:GCOWLEY)	CM	AH-RV-001B	FLYASH PUGMILL B ROTARY FEEDER	Complete
68	13398	O2 Dry Inlet 4X out (RB:LMCDONEL)	CMENV	1-IN-PRB	INLET CEMS SAMPLE PROBE UNIT 1	Complete
69	13397	CO Lo Inlet 4X out (RB:LMCDONEL)	CMENV	1-IN-PRB	INLET CEMS SAMPLE PROBE UNIT 1	Complete
70	13399	SO2 Inlet 4X out (RB:LMCDONEL)	CMENV	1-IN-PRB	INLET CEMS SAMPLE PROBE UNIT 1	Complete
71	13383	On Aug 12, remove and install AMESA trap and pieces in Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
72	13382	On Aug 12, remove and install AMESA trap and pieces in Unit 1 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
73	13396	CO hi Inlet 4X out (RB:LMCDONEL)	CMENV	1-IN-PRB	INLET CEMS SAMPLE PROBE UNIT 1	Complete
74	13428	Ortech requires a power hook up on Monday, July 13 afternoon. They will be parked outside the SW roll up door. (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
75	13427	On July 15, please remove Unit 2 AMESA trap; install new trap and pieces (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
76	13460	Collect Greenhouse Gas sample from Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
77	13410	On 18-Jun, remove AMESA trap, glass tube, union, nozzle and titanium bend on Unit 1 and replace AMESA trap only (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
78	13409	On 17-Jun, remove and exchange AMESA trap, glass tube, union, nozzle and titanium bend on Unit 1 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
79	13426	On July 15, please remove Unit 1 AMESA trap; install new trap and pieces (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
80	13404	Spot the Hazard Finding - Wetting Mixer Area - lime emergency blower suction line hanging in walkway - potential head knocker. Please install another bracket. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
81	13405	Spot the Hazard Finding - Wetting Mixer Area - Exposed wiring on the heat trace(s). Please secure (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
82	13402	Spot the Hazard Finding - Wetting Mixer Area - Quench towers near access hatches partially cladded, exposing sharp edges. Please affix cladding. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
83	13412	replace broken Micc for cb radio in loader for communication with trucks (RB:KCOATHAM)	CMSAF	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
84	13413	repair pugmill B inspection hatch, hinge broke away (RB:KCOATHAM)	CMSAF	AH-MIX-001B	FLYASH PUGMILL B	Complete
85	13406	Spot the Hazard Finding - Wetting Mixer Area - Rotary shaft(s) not guarded. Please assess and apply appropriate guarding or insulate and clad. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
86	13388	top cab guard for lights protection has broken weld at front left corner of cab.please reweld. (RB:KCOATHAM)	CMSAF	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
87	13394	Swing Gate at Setting Basin does not fully spring close. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

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Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
88	13401	Water hose consistently laying on floor next to emergency shower, west of lime silo, creating a trip hazard. Please install hose hanger. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
89	13464	Rolling platform located by conveyor 7 #2 ash discharger has expanded metal peeling on top platform creating a tripping hazard. (RB:JPOMFRED)	CMSAF	TOOL-GEN	TOOLS GENERAL	Complete
90	13498	Month 08 JHSC Facility Walk Down Finding - Ammonia Tank - Insulation/cladding missing off heat trace. Please recover exposed areas. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
91	13467	Spot the Hazard Finding - APC Wetting Mixer Area - The electrical grommets on the electrical panels APC-SW-WC-201, etc., should be sealed to prevent ash build-up inside the panel boxes. Please seal. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
92	13418	Install lock box (to house K1 pills) next to the First Aid Kit in the admin area. Box in FSC's office (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
93	13417	June 2020 emergency light that are not working in plant and need attention. (RB:FTROTTIE)	CMSAF	120-EM	EMERGENCY LIGHTS	Complete
94	13443	SHE CA-DURHAM YORK-20-I-0136 - Large hole in trench grating under #2 AD, with potential to step through. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

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#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	13579	Alarm in to change oil filter. (RB:FTROTTIE)	CM	SA-AC-001B	SERVICE AIR COMPRESSOR B	Complete
2	13595	Please repair grounding strap .Clip broken from wire .Clip on grounding wire housing. (RB:FTROTTIE)	CM	LI-PNL-1	HYDRATED LIME TRUCK UNLOADING PANEL	Complete
3	13596	Tip hall loader presently being used in the Residue building has developed a whistle sound when stepping on the accelerator. May be a turbo leak please inspect for leaks. (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
4	13593	Zone 2 on run 2 UFA damper is not actuating correctly. It appears the close command is not being delivered to the solenoid. Also possible leak at isolation valve as it appears some hydraulic oil is on valve body. (RB:LMCDONEL)	CM	2-PCV-4203	COMBUSTION AIR FAN INLET DAMPER UNIT 2	Complete
5	13594	Leak on pump at shaft seal (RB:LMCDONEL)	CM	WW-PU-002A	WASTE WATER SETTLING BASIN SUMP PUMP A	Complete
6	13571	baghouse compartment 102 pulse diaphragms 5,8 and 10 are blown. (Sept 4) (RB:JPURCELL)	CM	FG-BG-102	BAGHOUSE COMPARTMENT 1 UNIT 1	Complete
7	13572	level transmitter reading low may require horn to be blown out and power cycled (RB:KCOATHAM)	CM	C-LIT-4755	HYDRATED LIME SILO LEVEL TRANSMITTER	Complete
8	13568	Procurement of parts and service to restore East and West Refuse crane	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
9	13575	206 vibrator is making a lot of noise. Currently shut off but will need to be looked at. (RB:LMCDONEL)	CM	AH-VI-205	BAGHOUSE COMPARTMENT 5 HOPPER VIBRATOR UNIT 2	Complete
10	13578	Alarm in to change oil filter (RB:FTROTTIE)	CM	SA-AC-001A	SERVICE AIR COMPRESSOR A	Complete
11	13573	skid steer foot throttle is sticking may have a broken spring, will not release from throttle position when removing foot from peddle (RB:KCOATHAM)	CM	MOB-SKDSR-1	SKID STEER	Complete
12	13574	Boiler 1 martin grate drive VFD cabinet air conditioning issue. VFD inside enclosure faulting. Cabinet had to be opened up and fan in place. (Aug 31) (RB:JPURCELL)	CM	RF-GR-1011	STOKER GRATE RUN 1 UNIT 1	Complete
13	13610	Boiler 2 APC baghouse compartment 206 vibrator faulted out and tripping off. (Sept 16) (RB:JPURCELL)	CM	AH-VI-206	BAGHOUSE COMPARTMENT 6 HOPPER VIBRATOR UNIT 2	Complete
14	13609	solenoid not working .Pressure not dropping when firing. (RB:FTROTTIE)	CM	IA-TK-201	RECIRC FLYASH HOPPER DISCHARGE 1 FLUIDIZING NOZZLES INSTRUMENT AIR RECEIVER TANK UNIT 2	Complete
15	13612	Please inspect and repair recirc hopper as needed for pluggage	CM	IA-PCV-1002	RECIRC FLYASH HOPPER DISCHARGE 1 FLUIDIZING NOZZLES INSTRUMENT AIR PRESSURE REGULATOR UNIT 1	Complete

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#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
16	13619	Replace TC on ECt unit 2 O/L	CM	2-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 2	Complete
17	13605	West crane east lift cable has frayed on the end connected to the of the clamps has come off as well please inspect cable and reattach clamp (RB:KCOATHAM)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
18	13599	Vibrator making noise when operating. (RB:FTROTTIE)	CM	AH-VI-205	BAGHOUSE COMPARTMENT 5 HOPPER VIBRATOR UNIT 2	Complete
19	13590	East roll up door binding in the middle. had to put door in manual to closed. Ele and door needs checking out. (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Work Finished
20	13628	Supply and Replace FLR unit for IR camera for unit 1 leaking .	CM	CM-FN-IR-1	FURNACE IR CAMERA UNIT 1	Work Finished
21	13600	Repair Different areas for roof leak i,e scale house ,admin building and main roof clips.	CM	BLD-ADMIN	ADMINISTRATION BUILDING	Work Finished
22	13607	Control room washroom has a leak on the drain behind the wall. leaking down ibeams through the ele 4.7 closet to the ground floor hallway and 600 v electrical room , please locate and repair leak. (RB:KCOATHAM)	CM	BLD-BLR	BOILER BUILDING	Work Finished
23	13591	On 25-Sep, remove pieces and trap from Unit 2 and place in spacer trap for outage (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
24	13592	On 25-Sep, remove pieces and trap from Unit 1 and place in spacer trap for outage (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
25	13394	Swing Gate at Setting Basin does not fully spring close. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
26	13395	Potential Fall Hazard - Extend handrail up on the east side of the fly ash platform, adjacent to pug B. (RB:MNEILD)	CMSAF	AH-MIX-001B	FLYASH PUGMILL B	Complete
27	13388	top cab guard for lights protection has broken weld at front left corner of cab.please reweld. (RB:KCOATHAM)	CMSAF	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
28	13403	Spot the Hazard Finding - Wetting Mixer Area - Grating clips loose near the thermocouple and above conveyors creating a potential trip hazard. Please re-attach. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
29	13402	Spot the Hazard Finding - Wetting Mixer Area - Quench towers near access hatches partially cladded, exposing sharp edges. Please affix cladding. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
30	12867	Month 05 Facility Safety Inspection Finding - Residue Building- Tripping Hazard – with the current set-up HPPW hose constantly laying in walkway. Recommend hard hose installation (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

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#	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
31	13446	JHSC Agenda Item (Month 01) - Lime loading option for bag coating (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
32	13464	Rolling platform located by conveyor 7 #2 ash discharger has expanded metal peeling on top platform creating a tripping hazard. (RB:JPOMFRED)	CMSAF	TOOL-GEN	TOOLS GENERAL	Complete
33	13445	JHSC Agenda Item (Month 07) - Operations suggest getting a seat cover for the crane chairs – a material that can be wiped down. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
34	13606	Fixed Ladder Assessment - Lime Silo - Emergency Lime Hose impeding rung. Please consider an alternate route for hose. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
35	13498	Month 08 JHSC Facility Walk Down Finding - Ammonia Tank - Insulation/cladding missing off heat trace. Please recover exposed areas. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
36	13425	Near Miss 20-I-099 - Gasket seal around #1 barn door viewing port is broken. Needs repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
37	13413	repair pugmill B inspection hatch, hinge broke away (RB:KCOATHAM)	CMSAF	AH-MIX-001B	FLYASH PUGMILL B	Complete
38	13444	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	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
39	13443	SHE CA-DURHAM YORK-20-I-0136 - Large hole in trench grating under #2 AD, with potential to step through. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

October 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	13745	Residue building light above surge bin A/B not working. (bulb and lens damaged) (Oct 20) (RB:JPURCELL)	CM	BLD-RES	RESIDUE BUILDING	Complete
2	13743	Please check all gas unit heaters in boiler ground floor. The switches are on but units not working .Also unit by ash discharge door is missing thermostat plate. (RB:FTROTTIE)	CM	HV-UH-001	BOILER BUILDING GAS UNIT HEATER 1	Complete
3	13740	Stud needs welding for door on spool just above rotary valve to keep door closed. (RB:FTROTTIE)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
4	13739	O2 process variable on MARTIN (2-AY-3902) not coinciding with the O2 inlet reading on DCS (2-AIT-4737) - should be reading the same value (RB:BMUIR)	CM	2-AE-4740	INLET CEM SYSTEM UNIT 2	Complete
5	13742	Pugmill A fly ash surge bin rotary valve feeder VFD alarm will not clear. Fault alarms present on PLC and local panel. (Oct 19) (RB:JPURCELL)	CM	AH-RV-001A	FLYASH PUGMILL A ROTARY FEEDER	Complete
6	13741	Please check out 1-TIR-4762 showing low temp dp on DCS for #1 Quench (RB:FTROTTIE)	CM	1-FCV-4757	EVAPORATIVE COOLER QUENCH WATER FLOW CONTROL VALVE UNIT 1	Complete
7	13754	#4 solenoid no power was changed on October 113 2020.Was calling for #4 and valve was open in cabinet light on solenoid not lighten up on wet mixer 101. (RB:FTROTTIE)	CM	FG-DSM-101	RECIRC FLYASH MIXER 1 UNIT 1	Complete
8	13753	Boiler feedwater pump B recirc valve is showing closed in auto on DCS but is 100% open in the field. (Oct 13/2020) (RB:JPURCELL)	CM	C-FCV-0426-B	ELECTRIC BFW PUMP B DISCHARGE RECIRC FLOW CONTROL VALVE	Complete
9	13759	PLC for sootblowers on unit #1 is not working. Randy is aware and working on it. Couldn't find control box to put this SR under. (RB:LMCDONEL)	CM	SB-TCV-101	SOOTBLOWER HEADER THERMAL DRAIN VALVE UNIT 1	Complete
10	13757	Both double plattco valves HS-7085 HS7806 HS7805-2 HS-7806-2 ARE NOT WORKING .bottom plattco valves are staying open and top are staying closed. (RB:FTROTTIE)	CM	1-HV-7805	ECONOMIZER HOPPER A1 DOUBLE DUMP VALVE UNIT 1	Complete
11	13751	#4 solenoid is shut off in cabinet .will not shut off .Please check if solenoid lost power or burnt out. (RB:FTROTTIE)	CM	FG-DSM-101	RECIRC FLYASH MIXER 1 UNIT 1	Complete
12	13752	Mic camera no purge air alarm unit will not go in. please check (RB:FTROTTIE)	CM	CM-FN-IR-2	FURNACE IR CAMERA UNIT 2	Complete
13	13725	East drum safety valve is passing on boiler 2 (RB:KCOATHAM)	CM	2-PSV-5009	STEAM DRUM PRESSURE SAFETY VALVE LOW UNIT 2	Complete
14	13709	Belts blown on fan, need replacement parts. (RB:LMCDONEL)	CM	CC-FN-001A	CLOSED COOLING WATER HEAT EXCHANGER FAN A	Complete
15	13712	Soot blower control panel module is not powering up please repair/replace for #1 boiler soot blowers to operate (RB:KCOATHAM)	CM	SB-RET-101	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 1	Complete
16	13711	Replace defective #1 Boiler Sootblower Allen Bradley Compact Logix PLC	CM	SB-RET-101	EVAPORATOR RETRACTABLE SOOTBLOWER 1 UNIT 1	Complete
17	13735	replace missing guard on soot blower head assembly Boiler 1 SB112 (RB:KCOATHAM)	CM	SB-ROT-112	ECONOMIZER ROTARY SOOTBLOWER 12 UNIT 1	Complete
18	13734	Please repair inspection hatch on top of mixer, open to shafts and paddles safety concern (RB:KCOATHAM)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
19	13738	sootblower will not run in auto sequence via HMI but no issues running it locally - does however have a loose bolt on the packing box (RB:BMUIR)	CM	SB-RET-206	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 2	Complete

October 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
20	13736	Replace Transmitter (RB:LMCDONEL)	CM	1-TT-4813	BAGHOUSE COMPARTMENT 6 HOPPER TEMPERATURE TRANSMITTER UNIT 1	Complete
21	13732	oil leak to floor from drive end gear box of crusher #1 please inspect and repair (RB:KCOATHAM)	CM	AH-SH-101	EVAPORATIVE COOLER FLYASH CRUSHER UNIT 1	Complete
22	13733	Small door above the rotary valve needs some sort of fastener, eg. stud and bolt, to keep it closed (RB:GCOWLEY)	CM	AH-BIN-001B	FLYASH SURGE BIN B	Complete
23	13785	Transmitter failed and went high raising average and cutting off carbon feed. Needs to be forced until fixed. (RB:LMCDONEL)	CM	1-TT-4763-3	EVAPORATIVE COOLER OUTLET FLUE GAS TEMPERATURE TRANSMITTER 3 UNIT 1	Complete
24	13784	HMI for #1 ID fan in the stack MCC needs replacing as discussed with R.Mccomb (RB:BMUIR)	CM	FG-FN-101	ID FAN UNIT 1	Complete
25	13786	nut missing from bolt that goes through the screw just upstream of where a1 hopper drops (RB:GCOWLEY)	CM	AH-CV-201	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 2	Complete
26	13781	Please change out solenoid diaphragm on E-256-03C (RB:FTROTTIE)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
27	13780	Change out solenoid diaphragm #E-256-06C (RB:FTROTTIE)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
28	13783	Tipping hall west bump out north door #141 will not close door hinges sprung or frame bent pleaserepair (RB:KCOATHAM)	CM	BLD-TIP	TIPPING FLOOR	Complete
29	13782	Please change out solenoid diaphragm on E-256-01C (RB:FTROTTIE)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
30	13794	Gland steam condenser vibration high .Fan needs looking at . (RB:FTROTTIE)	CM	CD-CD-002	TURBINE GLAND STEAM CONDENSER	Complete
31	13790	Provide Welder and Millwright for Repairing Feed table on Unit 1.	CM	RF-FDT-101	FEEDTABLE UNIT 1	Complete
32	13789	Provide Welder and Millwright for Repairing Feed table on Unit 1.	CM	RF-FDT-101	FEEDTABLE UNIT 1	Complete
33	13791	Provide Welder and Millwright for cutting/preparing the refractory anchors on Unit 2 after initial inspection.	CM	RF-FN-201	FURNACE UNIT 2	Complete
34	13765	Please order paddles for pug mill used 5 on Saturday sept 19 2020 (RB:FTROTTIE)	CM	AH-MIX-001B	FLYASH PUGMILL B	Complete
35	13764	Both Manual valves when closed at martin area doesn't show up on fire panel as closed or open .Valve switches need adjusting or replace. (RB:FTROTTIE)	CM	FP-PIT-CAN	REFUSE PIT FIRE CANNONS	Complete
36	13768	Repair grate 2 cable on unit 2 martin. cable damaged. (RB:FTROTTIE)	CM	RF-BO-201	BOILER UNIT 2	Complete
37	13766	Change out 1 diaphragm for pulse air for bag house 104 .Need more diaphragm . (RB:FTROTTIE)	CM	IA-PCV-1005	BAGHOUSE COMPARTMENT 4/5/6 PULSE VALVE COMPRESSED AIR HEADER PRESSURE REGULATOR UNIT 1	Complete
38	13762	North fire pump runs manually, but will not start automatically (RB:GCOWLEY)	CM	FP-PU-001A	FIRE WATER DIESEL PUMP A	Complete
39	13760	outlet damper actuator leaking air from shaft gasket. (RB:FTROTTIE)	CM	FG-BG-203	BAGHOUSE COMPARTMENT 2 UNIT 2	Complete
40	13763	B1 ID Fan VFD HMI screen (motor bearing temp/vibration protection status) doesn't read. Please inspect and repair. (RB:MNEILD)	CM	600-MCC-101C	600 V MCC-101C BOILER FANS UNIT 1	Complete
41	13774	need to check out blower making noise and unit leaking this should be on shut down list. (RB:FTROTTIE)	CM	CD-CD-002	TURBINE GLAND STEAM CONDENSER	Complete
42	13772	shear pin broken and replace. need more shear pins only 2 left in maint. shop (RB:FTROTTIE)	CM	AH-RV-201	RECIRC FLYASH HOPPER DISCHARGE 1 ROTARY VALVE UNIT 2	Complete
43	13779	Cement rotary valve keep running in auto and in manual. Disconnect is open due to if close cement rotary valve will start running. (RB:FTROTTIE)	CM	AH-MIX-001A	FLYASH PUGMILL A	Complete

October 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
44	13777	Boiler 2 carbon eductor leaking at carbon silo. Pin hole causing large leak. Switched feeding both systems with unit 1 (Sept 22) (RB:JPURCELL)	CM	CF-EJ-201	ACTIVATED CARBON EJECTOR UNIT 2	Complete
45	13770	Pressure wash leaking heavy needs new seals. (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Complete
46	13769	2 Blue bins need repairs to clasp hooks on chains to hook up to tow motor. (RB:FTROTTIE)	CM	C-LSH-7861B	FLYASH SURGE BIN B LEVEL PROBE HI	Complete
47	13771	counter weight cage door hindge rusted up and broken needs repair. (RB:FTROTTIE)	CM	BLD-RES	RESIDUE BUILDING	Complete
48	13713	Procurement of Piping material for drain leak on boiler unit 2	CM	RF-BO-201	BOILER UNIT 2	Complete
49	13730	Procurement of Carbon Eductor Liners for carbon feed system.	CM	CF-EJ-101	ACTIVATED CARBON EJECTOR UNIT 1	Complete
50	13710	Replace Defective Site Security Camera Server	CM	TV-CAM-SEC	SECURITY CAMERAS	Complete
51	13788	Providing Engineering services for approval from TSSA for installation oc clean out port for both the boilers including expedited application, CAD drawings and PEng review.	CM	RF-BO-101	BOILER UNIT 1	Complete
52	13800	Emergency Call in for Trane service tech for Visitor centre heating issue.	CM	BLD-VC	VISITOR CENTRE	Complete
53	13761	on 8-Oct, install AMESA trap and pieces into Unit 1 (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
54	13755	On 13-Oct, install AMESA trap and pieces in Unit 2 (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
55	13767	thc OUT OF CONTROL ON SATURDAY .FIXED (RB:FTROTTIE)	CMENV	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
56	13758	Month 09 Facility Inspection Finding - Housekeeping - Residue - East of magnet - Fixed ladder gate does not spring close as designed. Please adjust. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
57	13775	Fixed Ladder Assessment - APC ID Fan Outlet Platform #1 - Top rung is approximately 7inches below access platform. Top rung should be even with access platform. Please investigate. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
58	13737	Month 10 JHSC Inspection Finding - Housekeeping - Trip Hazard - Closed Cooling Water Area - Materials laying on floor in walkways/blocking exits. Please store on nearby storage racks. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
59	13787	Emergency Egress Assessment - Grizzly Building Door #GR102 will not open from the outside. Please repair or replace. Also, large wooden blocks and C-can blocking doorway, violation of fire/building code. Consider relocating. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

November 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	13900	surge bin B spool piece door stud bolt snapped off (Nov 18) (RB:JPURCELL)	CM	AH-BIN-001B	FLYASH SURGE BIN B	Complete
2	13903	East roll up door of tipping floor not working (RB:FTROTTIE)	CM	BLD-TIP	TIPPING FLOOR	Complete
3	13902	Oil leaking on top of east crane gearbox. photos added to attachments (RB:FTROTTIE)	CM	RF-RC-001A	REFUSE CRANE EAST	Complete
4	13895	Procurement of thermocouples for APC	CM	2-TE-4790	RECIRC FLYASH HOPPER DISCHARGE 2 ROTARY VALVE HEATING TAPE TEMPERATURE ELEMENT UNIT 2	Complete
5	13899	Boiler 1 EL 18 furnace camera on west side has instrument air leak. (Nov 18) (RB:JPURCELL)	CM	CM-FN-IR-1	FURNACE IR CAMERA UNIT 1	Complete
6	13914	loud steam leak (RB:FTROTTIE)	CM	SB-ROT-211	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 2	Complete
7	13913	Steam leaking loud noise. (RB:FTROTTIE)	CM	SB-ROT-209	ECONOMIZER ROTARY SOOTBLOWER 9 UNIT 2	Complete
8	13905	FANS RUNNING BUT NO HEAT WITH TEMP AT45 GAS NOT COMING ON. (RB:FTROTTIE)	CM	HV-UH-008	APC AREA GAS UNIT HEATER 8	Complete
9	13904	NOT WORKING (RB:FTROTTIE)	CM	HV-UH-005	BOILER BUILDING GAS UNIT HEATER 5	Complete
10	13906	NO POWER AND MISSING PLATE FOR TEMP CONTROL (RB:FTROTTIE)	CM	HV-UH-004	BOILER BUILDING GAS UNIT HEATER 4	Complete
11	13874	52-T1 breaker rack out for grid outage work (Nov 1) (RB:JPURCELL)	CM	52-T1	13.8 KV CIRCUIT BREAKER 52-T1 PLANT TIE	Complete
12	13873	ECS belt separating on west edge for tracking material 2 spots 1' long see picture (RB:KCOATHAM)	CM	AH-CV-013	NON-FERROUS EDDY CURRENT SEPARATOR	Complete
13	13881	solenoid 6, power supply E256-06C, bad diaphragm, not firing correctly (RB:KCOATHAM)	CM	FG-BG-207	BAGHOUSE COMPARTMENT 6 UNIT 2	Complete
14	13880	Rental space heater requires welding connector end put on, heater is placed outside I&E shop for refit before being taken to building, Please install connector end (RB:KCOATHAM)	CM	BLD-PUG	PUGMILL BUILDING	Complete
15	13869	Procurement of Solenoid valves for Sodium Analyzer	CM	CF-SKD-402	SODIUM BISULFITE SKID	Complete
16	13872	baghouse compartment 104 solenoid E-150-O1C is not firing. identified in the field with a caution tag. (OCT 30) (RB:JPURCELL)	CM	FG-BG-105	BAGHOUSE COMPARTMENT 4 UNIT 1	Complete
17	13886	Cell 105, solenoid 2 suspect faulty diaphragm, power fed from E152-02C (RB:KCOATHAM)	CM	FG-BG-105	BAGHOUSE COMPARTMENT 4 UNIT 1	Complete
18	13885	cell 104, solenoid 6 not firing correctly possible diaphragm [power fed from E150-04C (RB:KCOATHAM)	CM	FG-BG-104	BAGHOUSE COMPARTMENT 3 UNIT 1	Complete
19	13889	Air cannon discharge piping cracked on second pass hopper	CM	RF-SP-201	SECOND PASS UNIT 2	Complete
20	13883	Cell 203, solenoid 5 is not firing correctly possible diaphragm E248-05C (RB:KCOATHAM)	CM	FG-BG-203	BAGHOUSE COMPARTMENT 2 UNIT 2	Complete
21	13882	Solenoid 8 , not firing correctly , power supply E254-08C (RB:KCOATHAM)	CM	FG-BG-206	BAGHOUSE COMPARTMENT 5 UNIT 2	Complete
22	13884	Cell 106 solenoid 4, not firing correctly possible diaphragm, power supply E154-04C (RB:KCOATHAM)	CM	FG-BG-106	BAGHOUSE COMPARTMENT 5 UNIT 1	Complete
23	13935	PLEASE CHECK OUT TRANSMITTER NOT READING CORRECT. (RB:FTROTTIE)	CM	2-PIT-4754-2	EVAPORATIVE COOLER QUENCH WATER STRAINER OUTLET PRESSURE TRANSMITTER UNIT 2	Complete
24	13944	#1 CA fan inlet damper hunting will not hold set point. Started at 5:56 returned to normal operation at 6:11am, please check for loss of signal (RB:KCOATHAM)	CM	1-PIC-4203	COMBUSTION AIR PRESSURE INDICATING CONTROL STATION UNIT 1	Complete
25	13942	Replacement screens are all used please order replacement screens for conveyor. Last useable one installed Nov 23 (RB:KCOATHAM)	CM	AH-CV-012	NON-FERROUS VIBRATING SCREEN CONVEYOR	Complete
26	13933	Valve keeps tripping into manual/mode lock - has a large effect on back end temps when it does not control properly (RB:BMUIR)	CM	1-TCV-4211	ECONOMIZER WATER BYPASS TEMPERATURE CONTROL VALVE UNIT 1	Complete

November 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
27	13934	Lots of alarms on air dryers. Dew point showing above zero, etc. Please check out (RB:GCOWLEY)	CM	SA-AD-001	INSTRUMENT AIR DRYER	Complete
28	13955	tipping floor loader batteries very weak. Alternator is charging good, but loader barely starting. (RB:GCOWLEY)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
29	13954	Please check out air dryer reading dew point of + 20 deg F. (RB:FTROTTIE)	CM	SA-AD-001	INSTRUMENT AIR DRYER	Complete
30	13956	Need 4 hoses for ammonia lances. (RB:GCOWLEY)	CM	AQ-NOZ-1LL	AQUEOUS AMMONIA INJECTION NOZZLE LEFT LOWER UNIT 1	Complete
31	13947	Filter on 202 seems to have detached from twist ring on regulator filter on 202 recirc hopper. (RB:LMCDONEL)	CM	IA-TK-202	RECIRC FLYASH HOPPER DISCHARGE 2 FLUIDIZING NOZZLES INSTRUMENT AIR RECEIVER TANK UNIT 2	Complete
32	13945	#1 lime system, reset several times over the weekend, system shows alarm and "wheel stop" in red. Please check system for alarm condition. (RB:KCOATHAM)	CM	1-WE-4873	HYDRATED LIME LOSS IN WEIGHT FEEDER LOAD CELL UNIT 1	Complete
33	13922	Please check conveyor at the motor to transfer casing making noise also leaking ash on floor. (RB:FTROTTIE)	CM	AH-CV-104	BOILER FLYASH TRANSFER SCREW CONVEYOR UNIT 1	Complete
34	13921	Bearing at the A3 drop to 101 is gone. needs replacing (RB:FTROTTIE)	CM	AH-CV-101	SECOND PASS/SUPERHEATER HOPPER FLYASH COLLECTION SCREW CONVEYOR UNIT 1	Complete
35	13924	Steam leaking from seal. (RB:FTROTTIE)	CM	SB-RET-105	SUPERHEATER 3 RETRACTABLE SOOTBLOWER 5 UNIT 1	Complete
36	13923	Tagged out .Gas peddle sticking. (RB:FTROTTIE)	CM	MOB-FKLT-1	FORKLIFT TOYOTA	Complete
37	13916	loud steam leak. (RB:FTROTTIE)	CM	SB-ROT-220	ECONOMIZER ROTARY SOOTBLOWER 20 UNIT 2	Complete
38	13915	Loud steam leak (RB:FTROTTIE)	CM	SB-ROT-215	ECONOMIZER ROTARY SOOTBLOWER 15 UNIT 2	Complete
39	13917	loud steam leak on soot blower 228 on unit 2 (RB:FTROTTIE)	CM	SB-ROT-227	ECONOMIZER ROTARY SOOTBLOWER 27 UNIT 2	Complete
40	13929	pulse air for compartment 107 solenoid 4 needs replacing. electrical tag E156-04C (RB:GCOWLEY)	CM	IA-TK-106	BAGHOUSE COMPARTMENT 4 PULSE AIR RECEIVER 106 UNIT 1	Complete
41	13928	West crane parked getting driver fault code DV2 came in two times. (RB:FTROTTIE)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
42	13926	elevator not moving. stuck on upper electrical room floor (4) (RB:GCOWLEY)	CM	ELV-BB	BOILER BUILDING ELEVATOR	Complete
43	13927	Filter pump will not start. Motor gone. (RB:FTROTTIE)	CM	RF-MH-201	STOKER HYDRAULIC CABINET UNIT 2	Complete
44	13876	Install trap and pieces for stack test on Unit 2 AMESA (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
45	13877	Remove and exchange trap only on Unit 1 AMESA (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
46	13870	#2 Boiler THC OOC (RB:FTROTTIE)	CMENV	2-AE-4744	INLET THC ANALYZER UNIT 2	Complete
47	13875	Install trap and pieces on Unit 1 AMESA for stack test (RB:AHUXTER)	CMENV	1-AE-4712	STACK CEM SYSTEM UNIT 1	Complete
48	13879	Assist Ortech with electrical hook up prior to stack test (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
49	13920	CO2 OOC on unit 1 (RB:FTROTTIE)	CMENV	1-AE-4748	STACK CARBON DIOXIDE ANALYZER UNIT 1	Complete
50	13878	Remove and install trap only on Unit 2 AMESA (RB:AHUXTER)	CMENV	2-AE-4712	STACK CEM SYSTEM UNIT 2	Complete
51	13918	Month 11 Facility Walkdown Inspection - El.10 #101 Conveyor - Pinch point – Gear box guard bent exposing rotating parts. Please fix. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
52	13936	Emergency Egress Assessment - Residue Building Door RL105 West Side - Door does not latch when in the closed position. During winter months, UO's tie door close with rope to prevent equipment from freezing. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete
53	13937	Emergency Egress Assessment - Residue Building Upper Man Door East Side - Latching mechanism does not work. Please repair. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

November 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
54	13919	Month 11 JHSC Facility Walk Down Finding - #2 Barn Door - Protective Shield missing off view port. Please affix. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete

December 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
1	14033	Appears snow plow broke off the 6" PVC sewer vent along the east side of roadway from turbine hall. Settling Basin Cage appears to have been pushed over the pipe breaking it off. Please repair (RB:KCOATHAM)	CM	SITE-GROUNDS	FACILITY GROUNDS	Complete
2	14035	Solenoid not opening fully allowing pulsing of air bustle to fly ash recirc hopper 202. please investigate and replace as required (RB:KCOATHAM)	CM	2-XV-4780-2	RECIRC FLYASH HOPPER DISCHARGE 2 FLUIDIZING NOZZLES INSTRUMENT AIR SOLENOID VALVE UNIT 2	Complete
3	14032	Residue loader DPF system alarms active (Dec 1) (RB:JPURCELL)	CM	MOB-FEL-2	FRONT END LOADER 2 CAT 950	Complete
4	14039	Exit lights not working .For November 2020 doc.file attached with lights not working and missing exit signs. (RB:FTROTTIE)	CM	120-EM	EMERGENCY LIGHTS	Complete
5	14036	Please repair broken grounding cable for truck offloading (RB:KCOATHAM)	CM	LI-SO-C01	HYDRATED LIME SILO	Complete
6	14038	replace the broken antenna on the loader for radio reception (RB:KCOATHAM)	CM	MOB-FEL-1	FRONT END LOADER 1 CAT 950	Complete
7	14025	Please check out battery .Sweeper would not start .Had to put charger on to get sweeper started. (RB:FTROTTIE)	CM	MOB-SWEP-1	STREET SWEEPER	Complete
8	14026	Lighting above surge bin A & B needs servicing. Lights are not working. fluorescent lights (RB:KCOATHAM)	CM	AH-BIN-001A	FLYASH SURGE BIN A	Complete
9	14023	Exit lights not working .For November 2020 doc.file attached with lights not working and missing exit signs. (RB:FTROTTIE)	CM	120-EM	EMERGENCY LIGHTS	Complete
10	14024	soot bower leaking at seal also attached word .doc for soot blower repairs. (RB:FTROTTIE)	CM	SB-RET-106	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 1	Complete
11	14029	Steam leaking (RB:FTROTTIE)	CM	SB-ROT-111	ECONOMIZER ROTARY SOOTBLOWER 11 UNIT 1	Complete
12	14030	no pressure. (RB:FTROTTIE)	CM	SB-ROT-124	ECONOMIZER ROTARY SOOTBLOWER 24 UNIT 1	Complete
13	14027	Seal leaking (RB:FTROTTIE)	CM	SB-RET-106	SUPERHEATER 2 RETRACTABLE SOOTBLOWER 6 UNIT 1	Complete
14	14028	leaking steam (RB:FTROTTIE)	CM	SB-ROT-109	ECONOMIZER ROTARY SOOTBLOWER 9 UNIT 1	Complete
15	14090	TE- 4312 -1 Boiler #1 evaporator flue gas inlet thermocouple not reading properly. May need replacement	CM	1-TE-4312	SECOND PASS OUTLET FLUE GAS TEMPERATURE ELEMENT UNIT 1	Complete
16	14087	Sand filter #3 when backwash or regenerates its tripping the RO of flow and pressure .The discharge valve on sand filter #3 is not closing. (RB:FTROTTIE)	CM	RO-PLC-1	RO SKID PROCESS CONTROLS	Complete
17	14051	Pozz rotary valve B system has a inverter fault as well as thermal switch fault (Dec 7) (RB:JPURCELL)	CM	AH-RV-002B	POZZOLAN ROTARY FEEDER B	Complete
18	14052	Knife gate to train A outside .Solenoid is sticking will not open unless you tap the solenoid. (RB:FTROTTIE)	CM	1-HCV-7843	FLYASH COLLECTION SCREW CONVEYOR LINE A DISCHARGE SLIDE GATE VALVE UNIT 1	Complete
19	14043	fluidizing blower does not function as required for A train cement pant leg. please investigate and repair. (RB:KCOATHAM)	CM	AH-FN-006A	PORTLAND CEMENT STORAGE SILO DISCHARGE HOPPER A FLUIDIZING BLOWER	Complete
20	14050	Please repair Disconnect and faults on Train B. (RB:FTROTTIE)	CM	AH-RV-002B	POZZOLAN ROTARY FEEDER B	Complete
21	14055	Battery dead .Need new battery installed. Will not hold charge (RB:FTROTTIE)	CM	MOB-MNLT-1	MANLIFT 80 FT	Complete
22	14056	RO ORP probe issues (reading too high to meet start up permissive) on start up and acting up intermittently (Dec 2) (RB:JPURCELL)	CM	RO-SKD-1	RO SKID	Complete
23	14053	West crane Hoist: Limit Switch monitoring cabin protection - suspect loose limit (RB:BMURPHY2)	CM	RF-RC-001B	REFUSE CRANE WEST	Complete
24	14054	solenoid # 4 not firing E154-04C (RB:KCOATHAM)	CM	FG-BG-106	BAGHOUSE COMPARTMENT 5 UNIT 1	Complete
25	14031	Surge bin A scaffold damage, requires deck board repair (12/1/2020) (RB:JPURCELL)	CM	AH-BIN-001A	FLYASH SURGE BIN A	Work Finished
26	14040	To perform Category 5 testing as per TSSA directive for main Building Elevator.	CM	ELV-BB	BOILER BUILDING ELEVATOR	Work Finished

December 2020 Corrective Maintenance

Select	Work Order ID	Task Description	WO Type	Tag Number	Asset Description	Status
27	14079	Superheater Inspection and boiler hydro test - leak suspected.	CM	RF-SH-101-1	SUPERHEATER 1.1 UNIT 1	Work Finished
28	14082	main vibrating conveyor AH-CV-007 has noise in the area of west motor eccentric. Inspection requested. (Dec 13) (RB:JPURCELL)	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Work Finished
29	14058	Scaffolding install and dismantle for HVAC PM's and troubleshooting for Visitor center mechanical room.	CM	HV-ACCU-06	VISITOR CENTRE OFFICE SPACE CONDENSER UNIT 6	Work Finished
30	14093	Provide skilled Labor for Eccentric shaft and Bearing replacement for Main vibratory conveyor.	CM	AH-CV-007	MAIN VIBRATING CONVEYOR	Work Finished
31	14037	Month 11 JHSC Facility Walkdown Finding - Potable Water Building - Housekeeping - Light burnt out. Please replace. (RB:DPICKETT)	CMSAF	SAF-GEN	SAFETY GENERAL EQUIPMENT	Complete