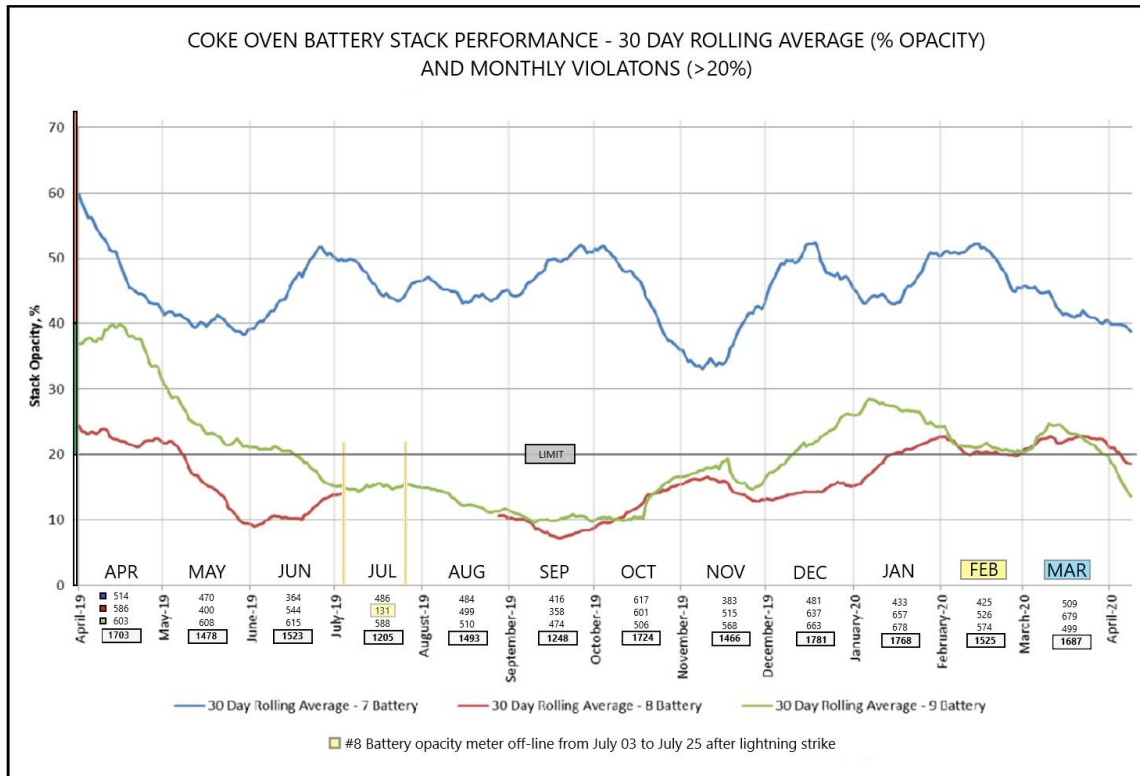


ALGOMA STEEL INC. COKE OVEN BATTERY OPACITY VIOLATIONS (2019-2020)



Modified from: ASI ACLC Meeting Presentation #33, June 09, 2020, slide 7.

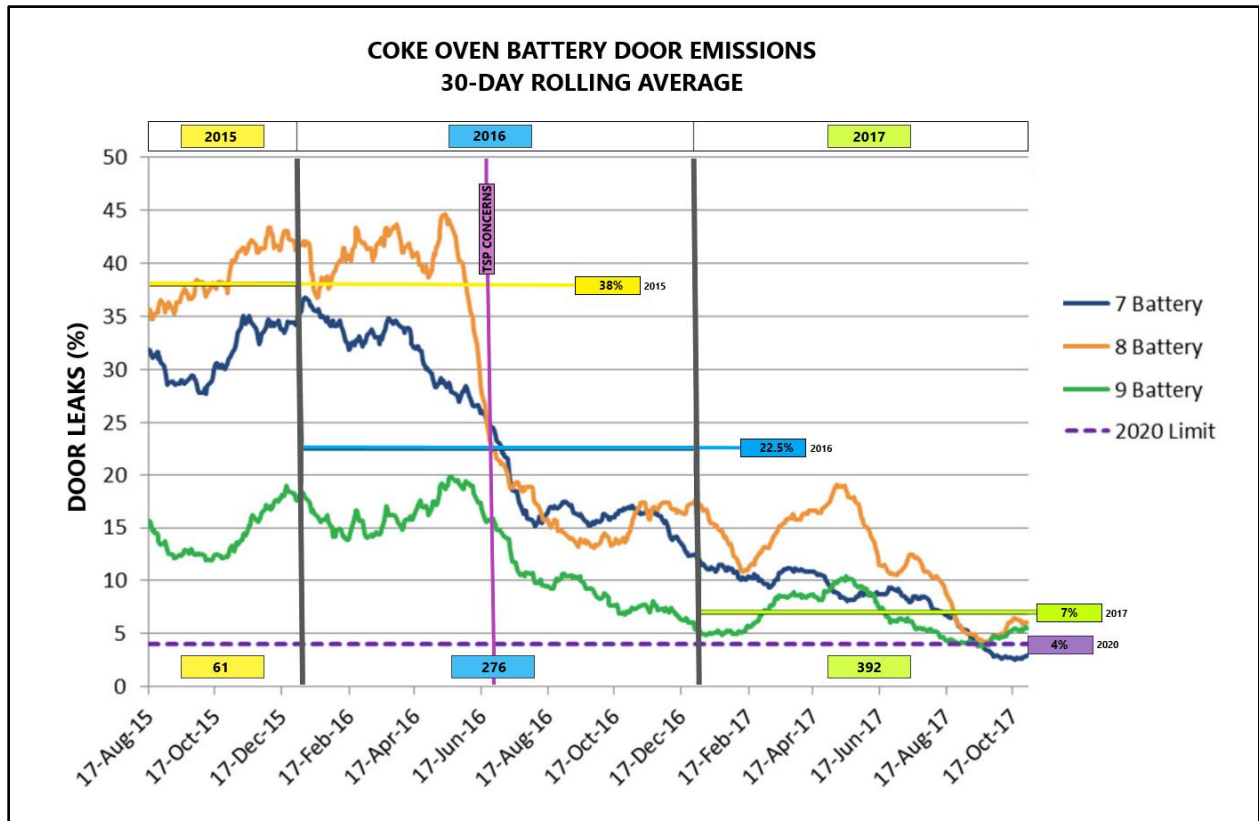
COMPARISON OF ASI COKE OVEN BATTERY STACK MONTHLY VIOLATIONS FOR 2019-2020

Total Year Violations 2019					Total Year Violations 2020				
Month	7 Battery	8 Battery	9 Battery		Month	7 Battery	8 Battery	9 Battery	
JAN	no data	no data	no data	no data	JAN	433	657	678	1768
FEB	270	545	530	1345	FEB	425	526	574	1525
MAR	323	633	488	1444	MAR	509	679	499	1687
APR	514	586	603	1703	APR	437	610	618	1665
MAY	470	400	608	1478	MAY	341	443	638	1422
JUN	364	544	615	1523	JUN	506	484	562	1552
JUL	486	131	588	1205	JUL	479	462	444	1385
AUG	484	499	510	1493	AUG	324	536	349	1209
SEPT	416	358	474	1248	SEPT*	117	323	198	638
OCT	617	601	506	1724	OCT	*	*	*	*
NOV	383	515	568	1466	NOV				
DEC	481	637	663	1781	DEC				
TOTAL	4808	5449	6153	16410	TOTAL	3571	4720	4560	12851

All data compiled from ASI Process Upset Tables
 *Data incomplete, data no longer posted on ASI Process Upset Table

Chart showing the difference in the number of monthly violations from 2019 to 2020.

ALGOMA STEEL INC. NON-COMPLIANCE DATA EVALUATION (2015-2017)



	2015			2016			2017		
	LIMIT %	EXCEEDANCES	RANGE %	LIMIT %	EXCEEDANCES	RANGE %	LIMIT %	EXCEEDANCES	RANGE %
Doors	38	61	38.1 - 43.4	22.5	276	22.6 - 44.7	7	392	7.1 - 19.1
Lids	0.8	78	0.9 - 2.4	0.8	1	0.9 - 0.9	0.8	0	0
Offtakes	15	0	0	15	10	15.1 - 16.6	4.2	125	4.3 - 7.7

PARTICULATE MATTER (PM)					
	2015	2016	2017	2018	2019
PM2.5	52.57	52.04	51.36	72.16	37.84
Limit	25.00	25.00	25.00	25.00	25.00
% of POI	210.29	208.16	205.42	288.66	151.37
PM10	76.39	74.50	76.79	96.22	64.81
Limit	50.00	50.00	50.00	50.00	50.00
% of POI	152.78	149.00	153.59	192.43	129.61
PM44	151.98	149.92	147.07	148.85	116.41*
Limit	120	120	120	164**	127
% of POI	126.65	124.93	122.56	90.76**	91.66*

BENZENE					
	2015	2016	2017	2018	2019
Benzene	5.94	5.76	3.94	4.39	4.67*
Limit	0.50	0.50	0.45	5.50	5.50
%POI	1187	1152	875.75	79.74	84.91*
Benzo-a-p	0.01128	0.01121	0.00312	0.00368	0.00525
Limit	0.00001	0.00001	0.0001	0.011	0.011
%POI	112000	112100	31200	33.45	47.72

*production decrease
 **SSS - Limit increase 120 ug/m3 to 164 ug/m3
 All units for benzene and particulate matter are in (ug/m3)

2017
OPACITY VIOLATIONS
● 7 BATTERY 3183
● 8 BATTERY 3564
● 9 BATTERY 3460
10207

Note: The Coke Oven Battery Door Emissions graph was modified from ACLC Meeting Presentation #23, December 05, 2017, slide 10. Data for doors, lids and offtake violations were compiled from MECP Environmental Compliance Reports (Air Emissions: 2015,2016,2017). Data for benzene and particulate matter (PM) was compiled from Algoma Steel Inc. and former Essar Steel Algoma ESDM reports. Opacity violations are for the period of January 01 – June 30, 2017 and were compiled from the ASI (Essar Steel) 2017 Process Upset Table. MECP delayed the request for a site-specific standard (SSS) for Benzo-a-pyrene (BaP) due to ongoing concerns of suspended particulate.

REPORTING ACCURACY (DISCREPENCIES) to ACLC OF THE NUMBER OF PUSHING VIOLATIONS

COMPARISON OF REPORTED PUSHING VIOLATIONS FOR COKE OVEN BATTERIES (7,8,9) (FEBRUARY-JULY)

2017									
LIMIT (50%)	7		8		9		TOTAL		
	ACLC	PROCESS	ACLC	PROCESS	ACLC	PROCESS	ACLC	PROCESS	REPORTED
FEB	2	0	0	5	0	5	2	10	20.0%
MAR	2	2	3	12	1	6	6	20	30.0%
APR	1	2	0	24	1	7	2	33	6.1%
MAY	2	0	0	9	0	6	2	15	13.3%
JUN	0	0	0	2	0	1	0	3	0.0%
JULY	3	2	3	15	0	3	6	20	30.0%
TOTAL	10	6	6	67	2	28	18	101	
REPORTED	166.7%		9.0%		7.1%		17.8%		

2019									
LIMIT (40%)	7		8		9		TOTAL		
	ACLC	PROCESS	ACLC	PROCESS	ACLC	PROCESS	ACLC	PROCESS	REPORTED
FEB	1	3	2	13	0	1	3	17	17.6%
MAR	2	1	0	14	3	3	5	18	27.8%
APR	0	2	1	7	0	0	1	9	11.1%
MAY	2	8	1	1	2	2	5	11	45.5%
JUN	5	6	3	8	0	0	8	14	57.1%
JULY	2	4	3	7	1	4	6	15	40.0%
TOTAL	12	24	10	50	6	10	28	84	
REPORTED	50.0%		20.0%		60.0%		33.3%		

* Data compiled from ASI Process Upset Tables and ACLC Meeting Presentations

Note: Data compared for the period where both the ACLC and Process Upset Table data were available

NO. 7 BATTERY FAILED PUSHES OBSERVED– JULY (NOT REPORTED)



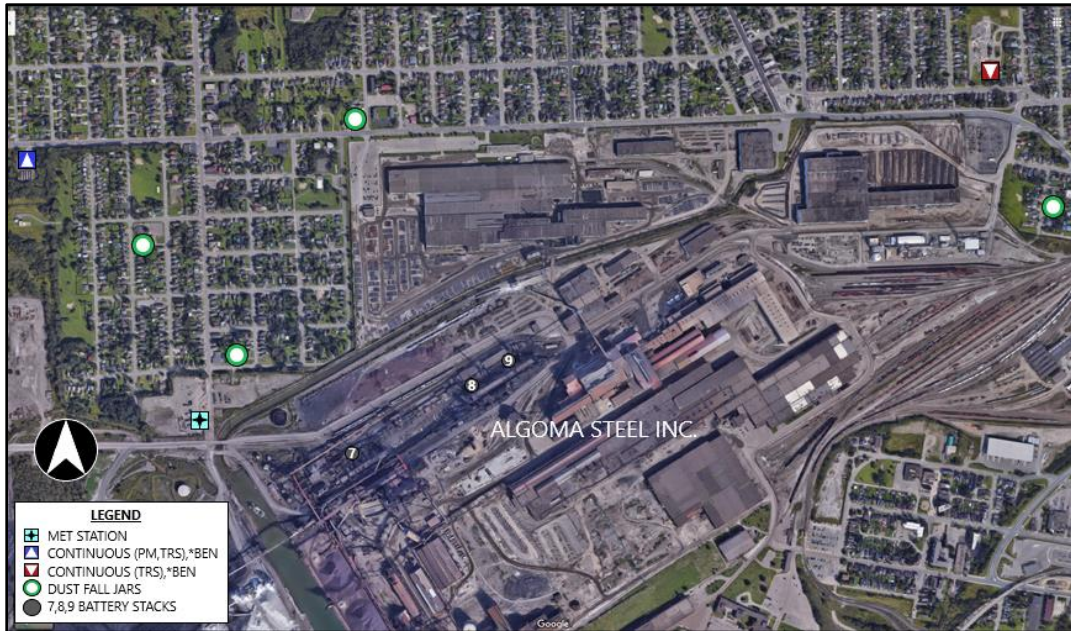
Note: The pushing limit in 2019 was 40%. Pushing emissions were not reported on ASI Process Upset Table as required by Condition 11 of Environmental Compliance Approval 3614-82DLFY

NO. 7 BATTERY FAILED PUSHES OBSERVED- AUGUST (NOT REPORTED)



Note: The pushing limit in 2019 was 40%. Pushing emissions were not reported on ASI Process Upset Table as required by Condition 11 of Environmental Compliance Approval 3614-82DLFY

COMPARISON OF AMBIENT AIR QUALITY NETWORKS



Current Algoma Steel Inc. Ambient Air Quality Network (modified Google image, 2020)

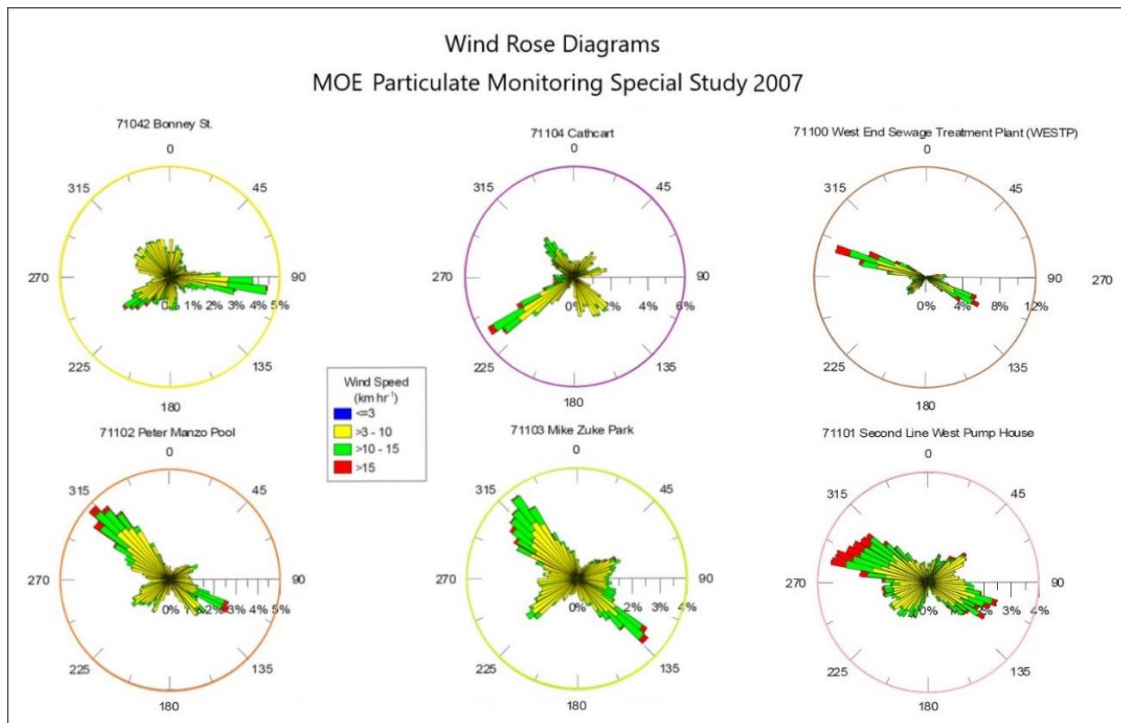
(VOCS -*Benzene (BaP) is non-continuous)



St. Marys Bowmanville Cement Plant PM Monitoring network (modified Google Image, 2020)

Note: Information sourced and modified from St. Marys Bowmanville Cement Plant PM Monitoring Program Presentation December 03, slide 4. There are three meteorological stations (“Met Station”) and three PM10 monitors (one non-continuous) surrounding St. Marys Cement Plant compared to only one Met Station and one monitor continuously measuring PM10 in ASI’s air quality monitoring network.

DIFFERENCES IN WIND SPEED AND DIRECTION BASED ON LOCATION



Wind roses diagrams generated from 15 min Aerocet data (page 6, figure 6)



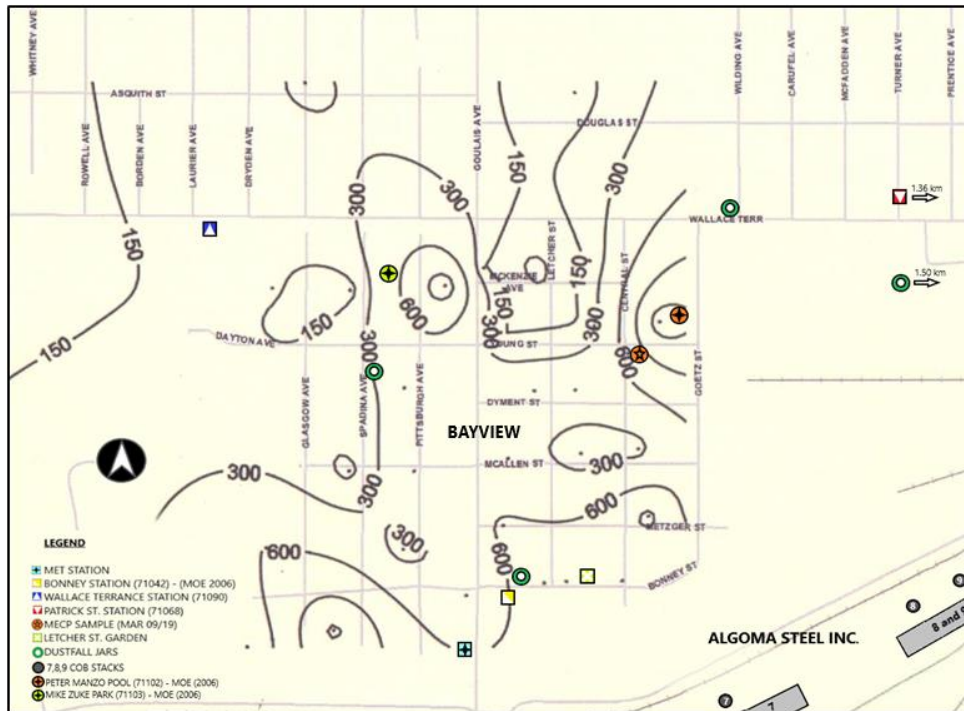
Overlay of four wind rose patterns from MOE Report, Sault Ste. Marie Particulate Monitoring Special Study (2007) page 6, figure 6 on a Modified Google Image (2020).

MECP PARTICULATE SAMPLE RELATIVE TO HISTORICAL DEPOSITION (AIR) 2006



Modified google map showing monitoring devices relative to sources of benzene compounds

BENZO-A-PYRENE CONCENTRATIONS IN SOIL SAMPLES FROM BAYVIEW NEIGHBOURHOOD (SOIL) 2012



Concentration Contour Map showing pattern of BaP (Benzo-a-pyrene) in surface soil samples

*Soil Survey in the Bayview Neighbourhood Adjacent to Essar Steel Algoma Incorporated, Sault Ste. Marie, Ontario (2012)

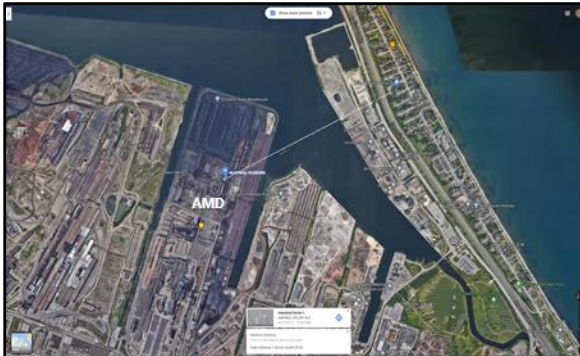
RELATIVE PROXIMITY OF RESIDENTS TO THE NEAREST COKE OVEN BATTERY



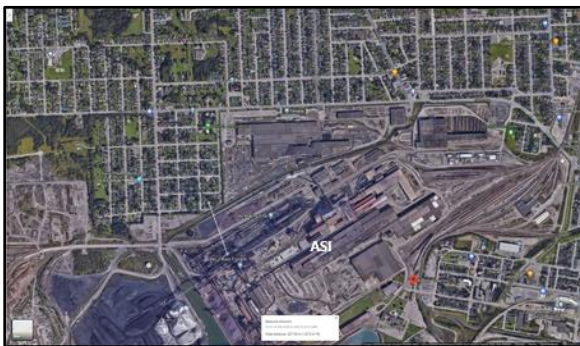
Stelco (Lake Erie Works), Nanticoke (1.01 km)



Stelco (Hamilton Works), Hamilton (1.44 km)



ArcelorMittal Dofasco (AMD), Hamilton (1.42 km)



Algoma Steel Inc. (ASI), Sault Ste. Marie (327.05 m)

Note: Distances are approximated relative to the nearest coke oven battery. Stelco Lake Erie Works (Nanticoke) is newer and has only has 1 active battery with 45 ovens. Stelco Lake Erie Works is a greenfield and is close to only a small number of homes along the lakefront. Stelco Hamilton Works is close to a small neighbourhoods but is generally over 1.5 km away from a larger population of residents. AMD and Stelco are located mostly in an industrial sector. ASI is predominately located by residents. ASI is approximately 4 times closer to residents than Stelco and AMD. ASI's By-Products plant is closer than the nearest battery (7 battery). The greater proximity to residents is a primary reason ASI has stricter site-specific standards (SSS) compared to other integrated steelmakers.

RESEARCH

Open Access



Exposure to air pollution near a steel plant is associated with reduced heart rate variability: a randomised crossover study

Robin H. Shutt^{1*}, Lisa Marie Kauri¹, Scott Weichenthal², Premkumari Kumarathasan³, Renaud Vincent⁴, Errol M. Thomson⁴, Ling Liu¹, Mamun Mahmud¹, Sabit Cakmak¹ and Robert Dales¹

Abstract

Background: Epidemiological studies have shown that as ambient air pollution (AP) increases the risk of cardiovascular mortality also increases. The mechanisms of this effect may be linked to alterations in autonomic nervous system function. We wished to examine the effects of industrial AP on heart rate variability (HRV), a measure of subtle changes in heart rate and rhythm representing autonomic input to the heart.

Methods: Sixty healthy adults were randomized to spend five consecutive 8-h days outdoors in one of two locations: (1) adjacent to a steel plant in the Bayview neighbourhood in Sault Ste Marie Ontario or (2) at a College campus, several kilometers from the plant. Following a 9–16 day washout period, participants spent five consecutive days at the other site. Ambient AP levels and ambulatory electrocardiogram recordings were collected daily. HRV analysis was undertaken on a segment of the ambulatory ECG recording during a 15 min rest period, near the end of the 8-h on-site day. Standard HRV parameters from both time and frequency domains were measured. Ambient AP was measured with fixed site monitors at both sites. Statistical analysis was completed using mixed-effects models.

Results: Compared to the College site, HRV was statistically significantly reduced at the Bayview site by 13% (95%CI 3.6,19.2) for the standard deviation of normal to normal, 8% (95%CI 0.1, 4.9) for the percent normal to normal intervals differing by more than 50 ms, and 15% (95%CI 74.9, 571.2) for low frequency power. Levels of carbon monoxide, sulphur dioxide, nitrogen dioxide, and fine and ultrafine particulates were slightly, but statistically significantly, elevated at Bayview when compared to College. Interquartile range changes in individual air pollutants were significantly associated with reductions in HRV measured on the same day. The patterns of effect showed a high degree of consistency, with nearly all pollutants significantly inversely associated with at least one measure of HRV.

Conclusions: The significant associations between AP and changes in HRV suggest that ambient AP near a steel plant may impact autonomic nervous system control of the heart.

Keywords: Air pollution, Steel production, Heart rate variability, Industrial air pollution, Environment, Epidemiology

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Full list of author information is available at the end of the article



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LOCAL PRESENTATION BY DR. ROBERT SUPPES SHOWING INCREASED CANCER RATES IN THE P6C AREA CODE

Local Importance

- Higher incidence of Follicular Lymphoma within 5 km of industry (22)
- Acute Myeloid leukemia rate significantly higher for Sault Ste. Marie (23)
 - National average rate 30.61 per 1,000,000 persons/year
 - Sault Ste Marie's rate was 44.91
 - ✦ P6C area code had a rate of 65.1

P6C area code has higher rates of acute myeloid leukemia than local and national rates (*Slide 25)



Boundary of the P6C area code (*Slide 26 - Modified)

* Ferrochrome in Sault Ste. Marie, Dr. Robert Suppes (Contributors: Dr. Geoff Skelton, Dr. Pedro Antunes), 2019.

ALLEGHENY COUNTY HEALTH DEPARTMENT FINES AGAINST UNITED STATES STEEL - (CLAIRTON) 2019



January 14, 2020

CERTIFIED MAIL - 9489 0090 0027 6037 9427 77

Michael Rhodes
United States Steel Corporation
Clairton Plant
400 State Street
Clairton, PA 15025

RE: United States Steel – Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties - April 1, 2019 through September 30, 2019 (2nd and 3rd Quarters)

Dear Mr. Rhodes:

The Department is seeking enforcement of stipulated penalties pursuant to Section IX of Settlement Agreement and Order #190604 (SAO). The Department has determined that United States Steel is in violation of Article XXI, § 2102.03.c and various provisions of § 2105.21, of the ACHD's Rules and Regulations by failing to meet the applicable requirements stated in Article XXI, § 2105.21 and ACHD Installation Permit #0052-1011b.

The stipulated penalties were calculated pursuant to Section IX, SOA from the violations observed by the Department's Coke Oven Process Technicians and Method 303 contractor, and including data reported by U.S. Steel, at your company's Clairton Plant, during the second and third quarters of 2019, April 1, 2019, through September 30, 2019. The violations and associated penalties are set forth in the attachments.

The Department is claiming **\$743,625.00** in penalties. Pursuant to SOA, V. Civil Penalty Payment, Paragraph A, 90 percent of the stipulated penalties **\$669,262.50** is to be paid to the Community Benefit Trust and 10 percent of the stipulated penalties **\$74,362.50** is to be paid to the Allegheny Clean Air Fund. Payments are to be made within thirty (30) days of receipt of this order. Payment to the Clean Air Fund shall be made by corporate check, or the like, and made payable to the "Allegheny County Clean Air Fund", and sent to Air Quality Program Manager, Allegheny County Health Department, 301 39th Street, Bldg. #7, Pittsburgh, PA 15201



**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**
301 39TH STREET, CLACK HEALTH CENTER, BUILDING 7
PITTSBURGH, PA 15201-1811
PHONE (412) 578-8103 • FAX (412) 578-8144
24HR (412) 687-ACHD (2243) • WWW.ALLEGHENYCOUNTY.US

COMPARISON OF HOURS OF STACK VIOLATIONS TO ALLEGHENY COUNTY FINES FOR US STEEL – (CLAIRTON) 2019

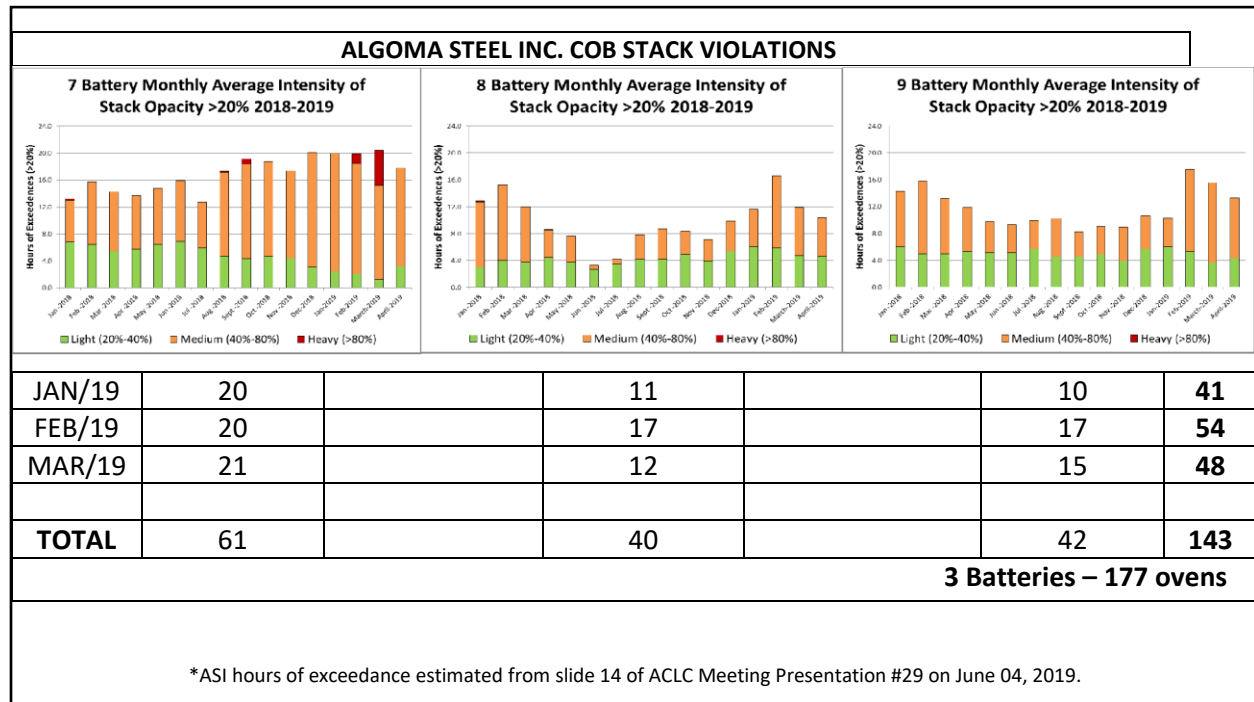


Photo 1: Modified from: ASI ACLC Meeting Presentation #29, June 04, 2019, slide 14

**UNITED STATES STEEL - CLAIRTON PLANT
OPACITY VIOLATIONS (HOURS OF EXCEEDENCE >20%)**

Combustion Stack COM Non-compliant Clock Hours

Battery	July	August	September	Total Clock Hours 2nd Qtr 2019	amount
1	5	2	4	11	\$2,200
2	13	12	10	35	\$8,600 *
3	4	5	10	19	\$3,800
13	2	2	6	10	\$2,000
14	4	2	8	14	\$2,800
15	3	10	11	24	\$4,800
19	3	9	10	22	\$4,400
20	13	1	1	15	\$3,000
B	5	5	2	12	\$2,400
C	0	1	1	2	\$400
Count:	52	49	63	164	\$34,400 subtotal

* Note: 33 hrs. @ \$200 & 2 hrs. @ \$1000 = \$8,600

10 Batteries - 708 ovens

Modified from: *Report by Allegheny Health Department Air Quality Program (January 14, 2020), pg.9

*United States Steel Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties April 1, 2019 through September 30, 2019 (2nd and 3rd Quarters)

Note: There is currently no fines issued for opacity violations at ASI. US regulations in Allegheny County are also stricter than Ontario where an opacity violation (>20%) occurs after 3 consecutive minutes versus 6 consecutive minutes in Ontario.

COMPARISON OF ASI PUSHING VIOLATIONS TO ALLEGHENY COUNTY FINES FOR US STEEL – (CLAIRTON) 2020

ALGOMA STEEL INC. PUSHING VIOLATIONS (JAN -MAR 2020)						
DATE	BATTERY	OVEN#		DATE	BATTERY	OVEN#
04-Jan	8	90		04-Feb	8	91
04-Jan	9	33		24-Feb	8	89
05-Jan	8	85		24-Feb	8	71
05-Jan	9	26		27-Feb	9	39
05-Jan	9	44				
06-Jan	8	18		DATE	BATTERY	OVEN#
06-Jan	9	13		01-Mar	8	70
06-Jan	9	24		07-Mar	8	98
06-Jan	9	26		08-Mar	9	19
06-Jan	9	46		08-Mar	9	29
07-Jan	8	84		10-Mar	8	ND
09-Jan	8	64		19-Mar	7	51
11-Jan	9	33		28-Mar	8	68
13-Jan	8	97		29-Mar	8	64
19-Jan	8	97				
19-Jan	9	38		MONTH	FAILS	
24-Jan	8	108		JAN	23	
24-Jan	9	25		FEB	4	
26-Jan	8	70		MAR	8	
28-Jan	8	97				
30-Jan	8	68		TOTAL	35	
30-Jan	9	26				
31-Jan	8	74				

Note: All data was compiled from ASI Process Upset Tables

Photo 3: Number of pushing violations at ASI recorded on their Process Upset Table

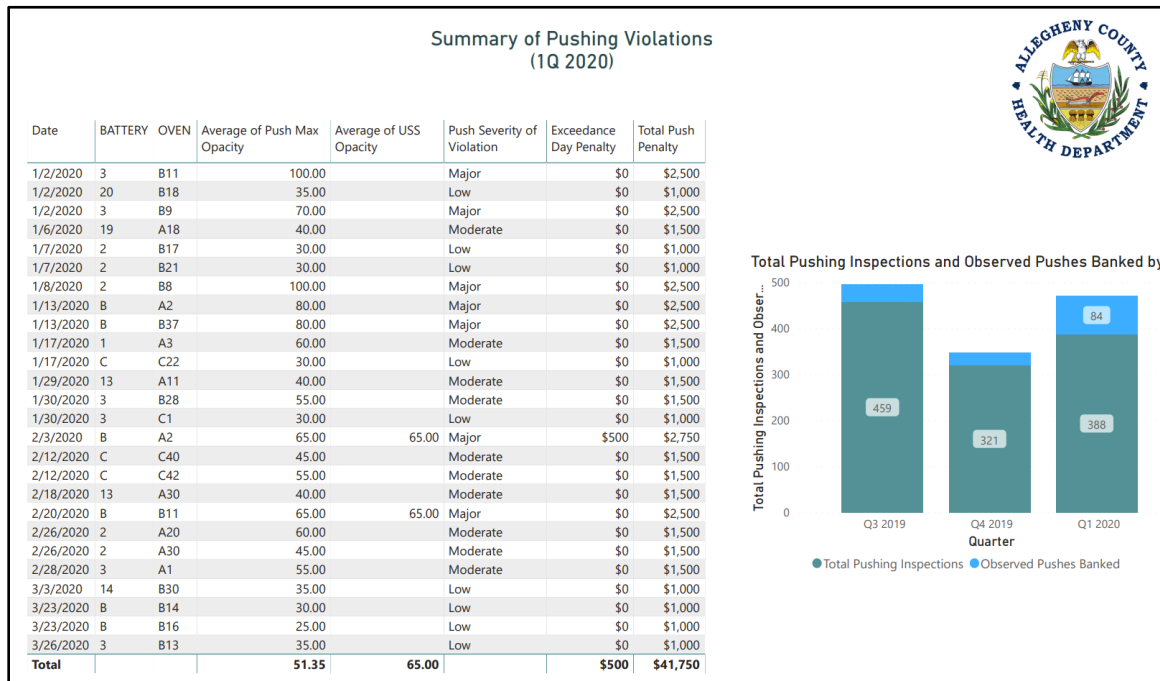


Photo 4: Modified from: *Report by Allegheny Health Department Air Quality Program (May 28, 2020), pg.18

*United States Steel Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties October 1, 2019 through March 31, 2020 (4th and 1st Quarters)

Note: There is currently no fines issued for pushing violations at ASI.

SOAKING EMISSION – ALLEGHENY COUNTY HEALTH DEPARTMENT FINES

SOAKING >20% (>10% for Battery C) - ACHD									
Date 2019	Battery	Oven #	Time Observed	Pusher/Coke (side)	Max. Non-flame Opacity	Severity	H2S exceed.	SO2 exceed.	amount
1-Apr	C	C24	744	P	60	moderate			\$2,250
1-Apr	C	C26	809	P	80	major			\$3,750
2-Apr	14	A1	850	C	50	moderate			\$2,250
2-Apr	14	A3	859	P	30	low			\$1,500
2-Apr	14	A5	910	C	50	moderate			\$2,250
15-Apr	1	B21	920	P	40	moderate			\$2,250
16-Apr	B	A3	758	P	60	moderate			\$2,250
16-Apr	B	A3	758	C	40	moderate			\$2,250
22-Apr	14	A27	742	C	40	moderate			\$2,250
22-Apr	14	B2	908	P	50	moderate			\$2,250
22-Apr	14	B2	908	C	40	moderate			\$2,250
23-Apr	3	B3	904	C	70	major			\$3,750
24-Apr	C	C72	851	P	60	moderate			\$2,250
29-Apr	13	A11	860	C	45	moderate			\$2,250
1-May	1	B1	913	P	40	moderate			\$2,250
2-May	3	B14	708	P	100	major			\$3,750
2-May	3	B14	708	C	100	major			\$3,750
8-May	19	A6	859	C	40	moderate			\$2,250
9-May	B	A21	724	P	50	moderate			\$2,250
9-May	14	B2	832	C	60	moderate			\$2,250
9-May	14	B4	845	C	35	low			\$1,500
14-May	19	C11	907	P	80	major			\$3,750
14-May	19	C11	907	C	100	major			\$3,750
16-May	C	C1	726	P	100	major			\$3,750

Photo 4: Modified from: *Report by Allegheny Health Department Air Quality Program (May 28, 2020), pg.5

*United States Steel Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties October 1, 2019 through March 31, 2020 (4th and 1st Quarters)



Emission resulting from soaking and the initial start of a push (removal of coke) at ASI No. 9 Battery

Note: Soaking is the period when the cap of the standpipe (offtake) is opened, and emissions are vented to the atmosphere at the beginning of a pushing operation. Soaking emissions can be high source of emissions and are evaluated using Method 9. Fines are issued based on standards set by US Allegheny County Health Department. Many coke oven batteries including all of those in Ontario are not evaluated for this type of emission. Pushing emissions are only evaluated when the hot coke enters the coke transfer car at ASI.

US ALLEGHENY COUNTY FINES FOR DOOR LEAKS – US STEEL CLAIRTON

DOORS									
Date 2019	Battery	Percent Leaking (%)	ACHD or Keramida	Severity Value	Severity	H2S exceed.	SO2 exceed.	amount	
1-Apr	C	3.18%	Keramida	1.06	low			\$1,500	
24-Apr	C	3.13%	ACHD	1.04	low			\$1,500	
22-May	C	3.57%	ACHD	1.19	low			\$1,500	
31-May	14	6.48%	Keramida	1.30	moderate			\$2,250	
11-Jun	C	5.33%	Keramida	1.78	major			\$3,750	
27-Jun	1	8.85%	ACHD	1.11	low			\$1,500	
Count:		6					subtotal	\$12,000	

DOORS >40% (30% for Battery C) - ACHD									
Date 2019	Battery	Oven #	Opacity	Time Observed	Severity Value	Severity	H2S exceed.	SO2 exceed.	amount
5-Apr	C	C3	50	1039	1.43	moderate			\$1,125
9-Apr	1	B22	90	1159	2.00	major			\$1,875
9-Apr	1	B24	80	1200	1.78	major	\$250		\$2,125
9-Apr	1	B26	45	1201	1.00	low	\$250		\$1,000
11-Apr	3	A20	50	709	1.11	low			\$750
11-Apr	3	A22	75	709	1.67	major			\$1,875
11-Apr	3	A26	45	1012	1.00	low			\$750
17-Apr	14	B12	50	755	1.11	low			\$750
24-Apr	C	C18	45	740	1.29	moderate			\$1,125
24-Apr	C	C60	100	731	2.86	major			\$1,875
24-Apr	C	C62	100	731	2.86	major			\$1,875
24-Apr	C	C66	50	732	1.43	moderate			\$1,125
1-May	C	C14	65	944	1.86	major			\$1,875
6-May	14	B29	75	1004	1.67	major	\$250		\$2,125
9-May	B	B34	55	714	1.22	moderate			\$1,125
10-May	19	C24	70	853	1.56	major			\$1,875
14-May	1	B9	50	814	1.11	low			\$750
14-May	1	B11	45	815	1.00	low			\$750
15-May	14	B29	50	937	1.11	low			\$750
15-May	14	B28	50	937	1.11	low			\$750
15-May	14	B16	50	938	1.11	low			\$750
15-May	14	A27	45	951	1.00	low	\$250		\$1,000
15-May	15	B11	45	1001	1.00	low			\$750
15-May	15	B5	45	1001	1.00	low			\$750

Fines issued based on percentage of doors leaking and the opacity of the emission from an individual leaking door

Note: In Ontario, leaking doors are not evaluated based on the opacity of the emission coming from any doors. Doors are simply evaluated whether there is a presence of a leak or not. There are no fines issued in Ontario for the leaking doors at coke oven batteries.

COMPARISON OF ASI 2020 COB STACK VIOLATIONS SINCE 2017

ALGOMA STEEL INC. COB STACK MONTHLY VIOLATIONS (>20%) (JANUARY 01 - JUNE 30)																	
Total Year Violations 2017					Total Year Violations 2019					Total Year Violations 2020							
Month	7 Battery	8 Battery	9 Battery		2017	Month	7 Battery	8 Battery	9 Battery		2019	Month	7 Battery	8 Battery	9 Battery		2020
JAN	608	698	546	1852	1852	JAN	no data	no data	no data	no data	ND	JAN	433	657	678	1768	1768
FEB	451	598	468	1517	1517	FEB	270	545	530	1345	1345	FEB	425	526	574	1525	1525
MAR	498	614	601	1713	1713	MAR	323	633	488	1444	1444	MAR	509	679	499	1687	1687
APR	622	549	569	1740	1740	APR	514	586	603	1703	1703	APR	437	610	618	1665	1665
MAY	436	583	651	1670	1670	MAY	470	400	608	1478	1478	MAY	341	443	638	1422	1422
JUN	568	522	625	1715	1715	JUN	364	544	615	1523	1523	JUN	506	484	562	1552	1552
TOTAL	3183	3564	3460	10207	10207	TOTAL	1941	2708	2844	7493	7493	TOTAL	2651	3399	3569	9619	9619

* All data compiled from ASI Process Upset Tables

Comparison of Coke Oven Battery (COB) stack monthly violations for 2017, 2019 and 2020.

Court Bulletin Nouvelles judiciaires



Ministry of the
Environment

Ministère de
l'Environnement

For Immediate Release
October 15, 2010

ESSAR STEEL ALGOMA INC. FINED \$100,000 FOR PARTICULATE DISCHARGE

SAULT STE. MARIE – On September 30, 2010, Essar Steel Algoma Inc. was fined \$100,000 for causing or permitting the discharge of a contaminant, namely particulates, into the natural environment, contrary to the Environmental Protection Act.

The Court heard that the company operates a steel making facility in Sault Ste. Marie. On August 28, 2008, the ministry received complaints about emissions from the company's smokestacks. The smoke emissions had prompted the complainants to go inside their homes. Ministry staff observed smoke being emitted from the site and noted that it appeared to drop to ground level and migrate in a northerly direction off the property.

The company was charged following an investigation by the ministry's Investigations and Enforcement Branch.

The company was fined \$100,000 plus a victim fine surcharge and given 90 days to pay.

For further information:

Members of the media:
Kate Jordan
Communications Branch
(416) 314-6666

Contact information for the general public:
416-325-4000 or 1-800-565-4923/
www.ontario.ca/environment

ARCELORMITTAL DOFASCO (AMD) FINES FOR STACK OPACITY VIOLATIONS FROM 2012

Coke dust plumes cost steelmaker \$390,000

ArcelorMittal Dofasco admits to six charges

[Matthew Van Dongen](#)

The Hamilton Spectator

Tuesday, May 27, 2014

ArcelorMittal Dofasco faces a government order to cut pollution at its steelmaking plant even as it prepares to pay \$390,000 in fines for releasing coke-oven dust into the air two years ago.

The company pleaded guilty Monday to six charges of exceeding visible pollution standards.

But it noted in a statement that past and ongoing repairs — including an \$87 million investment — are improving the environmental performance of its coke-making plants.

Seven other charges were dropped.

The rare provincial charges — the first of their kind laid against the steelmaker since local air regulations were updated almost a decade ago — came after nearly 200 air pollution violations were recorded in 2012.

But hundreds of new "opacity exceedances" — basically thick smoke plumes that linger for more than six minutes — have since been recorded by the Ministry of the Environment, said local spokesperson Jennifer Hall.

Ministry staff have noted more than 500 violations since April 2012, an average of one every day-and-a-half.

That's no surprise to residents living in the shadow of the steelmaker, said Barbara LaFleshe, who attended provincial offences court to hear the verdict. "It hasn't gotten better. All you have to do is sit there and watch and you'd see (a smoke plume) practically every day," said the resident of McAnulty neighbourhood, where studies show residents face a higher risk of dying due to air pollution.

LaFleshe said she was disappointed a sustained citizen effort to submit photos of pollution to the MOE resulted in what she called a "slap on the wrist" and questioned whether it would deter future pollution.

Hall said the ministry is poised to issue an [order](#) that sets deadlines for a series of planned environmental fixes between this June and 2018.

But company spokesperson Marie Verdun said via email that ArcelorMittal "worked closely" with the MOE on the actions outlined in the order, and required improvements are already underway.

Verdun said the company previously committed to close by early 2015 its oldest coke-making plant, which turns coal into fuel for steel-making blast furnaces.

That move alone is expected to cut the number of opacity violations by 30 per cent, she said

Full article: <https://www.simcoe.com/news-story/4540106-coke-dust-plumes-cost-steelmaker-390-000/>

ESSAR STEEL ALGOMA PREVIOUS ACKNOWLEDGEMENT OF NO. 7 BATTERY'S OPERATING CONDITION (2009)

Essar looks at replacing coke oven battery

Essar Steel Algoma says problems with its coke oven battery Number 7 are bad enough that one option it's considering is replacement of the 1950s-vintage facility.

Nov 24, 2009 7:43 PM By: Carol Martin



Essar Steel Algoma says problems with its coke oven battery Number 7 are bad enough that one option it's considering is replacement of the 1950s-vintage facility.

Jerry Suurna, Essar's local general manager for safety, environment and emergency services, says the Number 7 battery may be too old to be worth the cost to retrofit a pollution control device to its door.

It's the oldest of the three operating coke oven batteries at Essar Steel Algoma.

Speaking last night at a community open house, Suurna talked about recent developments, current priorities and planned emission control initiatives at the Sault Ste. Marie steel mill.

He said the company had thought it would be able to install an automatic, mechanized door and door-jam cleaners on the battery door without a lot of changes to the door itself or its frame.

The company was mistaken, said Suurna.

When engineers checked on the door frame they found it would not support the weight of the equipment Essar Steel Algoma was looking at buying for it.

And no other equipment that could do the job was immediately obvious or available.

A multi-thousand dollar project quickly grew to a multi-million dollar project and Suurna said Essar management is having second thoughts about investing that much money on such an old battery.

What Essar wants the ministry to do

So Essar Steel Algoma is asking the Ontario Ministry of the Environment whether it can delay action of any sort on that furnace for a few months while the company investigates its options and comes up with a new coke oven emission reduction program.

It's seeking four amendments to its certificate of approval from the Ministry of the Environment to discharge emissions into the natural environment. These are:

- To defer the installation of door and jam cleaners on number 7 coke oven battery to coincide with the Ministry of the Environment's discussions of Essar Steel Algoma's alternative coke oven emission reduction program

*Full story: <https://www.sootoday.com/local-news/essar-looks-at-replacing-coke-oven-battery-126899>

DELAYS TO MAKE REPAIRS TO NO. 7 COKE BATTERY TO MEET CURRENT STANDARDS (2011)

CONTENT COPY OF ORIGINAL



Ministry of the Environment
Ministère de l'Environnement

NOTICE OF REFUSAL

AIR

REFERENCE NUMBER 8383-8FHM86

ESSAR Steel Algoma Inc.
105 West Street
Sault Ste. Marie, Ontario
P6A 7B4

Site Location: 105 West Street
Sault Ste. Marie City, District of Algoma, Ontario

In accordance with Section 139(1)(c) of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, I hereby give notice that, under Section 9(4) of the Act, I have refused to issue a certificate of approval under Section 9 of the Act for your Application for Certificate of Approval (Air) dated 2010/12/14, for extension of the date of completion of the installation of automatic door and jamb cleaners on your existing No. 7 coke oven battery from June 30, 2011 to June 30, 2012.

The reasons for this refusal are as follows:

- (1) Postponing the installation of the door and jamb cleaners on your existing No. 7 coke oven battery would not prevent or alleviate an adverse effect, as the extension will only prolong the adverse effects from benzene and benzo(a)pyrene discharged from your existing No. 7 coke oven battery.
- (2) There is no dispute that cleaning of the oven door seal and the mating face of the oven door jamb will promote quicker sealing of the door following a fresh charge of coal and the benefit is reduced amount of leakage of contaminants such as benzene and benzo(a)pyrene.
- (3) The alternative measures proposed by you for the manual cleaning of the No. 7 coke oven battery are not equivalent to the automatic door and jamb cleaners as these measures do not provide the benefits of consistency and certainty in the reduction of the discharges.
- (4) This is the second request for extension. ESSAR Steel Algoma Inc. had almost 3 years to assess the installation of the automatic door and jamb cleaners on the existing No. 7 coke oven battery and the work has not been completed to date. Therefore the Director has no basis for belief that this installation will be completed by the proposed extension date of June 30, 2012.
- (5) The automatic door and jamb cleaners on your existing No. 7 coke oven battery will not reduce all the off-property emission levels of benzene and benzo(a)pyrene below where potential adverse effects may occur, but the installation of the automatic door and jamb cleaners is considered to be one of the potential several steps that would need to be taken to reduce the levels of these carcinogenic contaminants.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The grounds on which you intend to rely at the hearing considering your appeal.

The Notice should also include:

SIGNIFICANT EMISSIONS EVENTS (HIGH SOURCES OF BENZENE) AT ALGOMA STEEL INC. (2019)




Heavy emissions on March 09, 2019 from ASI due to power failure due from older style technology




Heavy emissions and flaring from ASI on October 18, 2019 due to pipe bursting (Soo Today)

SIGNIFICANT EMISSIONS EVENTS (2019) ASI PROCESS UPSET TABLES

 Environmental incidents resulting from operations			
March 11	Cokemaking	Charging emission #9 Battery, #29 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #27 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #25 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #05 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #03 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #49 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #45 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #47 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Charging emission #9 Battery, #51 Oven	Charged oven to atmosphere to reduce risk due to Oxygen/Gas ratio
March 10	Cokemaking	Stack emission #7 battery, 15 events	Ovens to be inspected
March 10	Cokemaking	Stack emission #8 battery, 19 events	Ovens to be inspected
March 10	Cokemaking	Stack emission #9 battery, 5 events	Ovens to be inspected
March 9	Facility Wide	Plant wide power failure, flares on Coke Batteries ignited, loss of power to baghouses	Dispatched emergency EMTs to repair electrical issue, followed emergency shut down procedures
March 9	Cokemaking	Pushing emission #9 Battery, #22 Oven	Checked next oven and continues pushing

Updated table showing March 09 event and discharges of COB gas to the atmosphere post March 09

 Environmental incidents resulting from operations			
October 19	Cokemaking	Stack emission #7 battery, 20 events	Ovens to be inspected
October 19	Cokemaking	Stack emission #8 battery, 25 events	Ovens to be inspected
October 19	Cokemaking	Stack emission #9 battery, 15 events	Ovens to be inspected
October 18	By-Products	400 lb steam line rupture caused a power loss in the BP resulting in the south raw liquor tank and tar decanters to overflow and entered storm sewers.	Area was cleaned up, storm sewer was bermed to prevent further inflow and power was restored.
October 18	By-Products	400 lbs steam line rupture, power loss cause loss of suction, battery flares lit. SAC Number 0008-BH3DGT	Repairs on-going, power restored, suction re-established.
October 18	Cokemaking	Stack emission #7 battery, 4 events	Ovens to be inspected
October 18	Cokemaking	Stack emission #8 battery, 4 events	Ovens to be inspected
October 18	Cokemaking	Stack emission #9 battery, 4 events	Ovens to be inspected
October 17	Cokemaking	Stack emission #7 battery, 28 events	Ovens to be inspected

A portion of ASI Process Upset Table highlighting the event on October 18, 2019.

Note: There was no acknowledgement of the event in the following ACLC #30 meeting minutes on September 08, 2019 despite a steam line rupturing which caused a power loss in the BP (By-products Plant) resulting in the south raw liquor tank and decanters to overflow and enter the storm sewers. There was no acknowledgement of public complaints or discussions despite media coverage on the event.

DELAYS TO REPAIR BLAST FURNACE LEAK (SAFETY CONCERNS)

Algoma Steel to start work Wednesday fixing 'nuisance noise'

'It sounds like there is an airport and the airplanes are just circling and never land' - Bayview resident

Mar 31, 2020 11:07 PM By: [David Helwig](#)



file photo by Kenneth Armstrong/SooToday

Algoma Steel says a gas leak is responsible for loud noises emanating this week from the steel mill, but the problem should be resolved quickly.

"If you come down to my area (Bayview) it sounds like there is an airport and the airplanes are just circling and never land," one reader tells SooToday.

"This goes on day and night for over a week now, I haven't slept peacefully in a week."

"I can confirm there is a leak on the blast furnace gas uptake," says Brenda Stenta, Algoma Steel's manager of communications and branding.

"It is slated for repair during our scheduled maintenance outage which commences tomorrow," Stenta says.

"This leak is not hazardous but we do acknowledge that it is a nuisance noise and we apologize for any inconvenience it may be causing."

<https://www.sootoday.com/local-news/algoma-steel-to-start-work-wednesday-fixing-nuisance-noise-2216495>



First observation of the blast furnace leak @10:51 am from Cathcart St. on Feb 09, 2019



Photo 3: Typical appearance of dirty emissions from the leak @ 1:48 pm from Bonney St.



Closer view of a later photo showing a small square “orange” patch (04/15/ 2020 @ 6:49 am)

Note: The repairs were completed (scaffold removed) and the patch was noted on 04/03/2020

Comments:

I first observed the blast furnace leak on February 09, 2020 from Cathcart St. I was not sure what was causing it at the time since there was also no audible noise from this position. On March 26, 2020 I took pictures and video of the emissions released from a leak on the rear of a gas uptake. The sound was very loud within a block of the corner of Bonney St. and Goetz St. I was met shortly by a resident in the Bayview area that expressed an annoyance of how loud it was and how long it was going on. I told the resident to contact ASI Environmental Control and the MECP. The resident said they (ASI) do not usually listen, and others had complained already. I advised the resident that they could also contact Soo Today if they were concerned that there would be no action. The repairs were delayed and not made until April 01, 2019.

I am unaware if the MECP verified the noise levels considering ASI claims they “identified a leak in the blast furnace gas main near the top of the furnace” on March 20, 2020. The leak was still present until the end of March before shutdown. Considering this “gas main” leads to a bleeder valve and is under high pressure when the blast furnace is in full operation, ASI should have addressed the situation earlier. The leak and the noise would have been easily identified back in February where it can clearly be seen over 1 km away. ASI claims noise levels were within limits. I am not sure what the noise level limits are considering it did sound like a jet engine constantly running near Bonney Street. The crack in the pipe was likely caused from the abrasion of gases and particulate. The crack could have indicated possible issues of structural integrity, leading to catastrophic failure and a large emissions event.