Hamilton Works

2020 Annual Toxic Substances Reduction Report

(O. Reg. 455/09)

Issued June 24, 2021

Basic Facility Information

Section 1 – Facility Information	
Owner	Stelco Inc.
Facility name	Hamilton Works
Address	386 Wilcox Street
City	Hamilton
Province	Ontario
Postal Code	L8N 3T1
Spatial Coordinates (NAD83)	UTM Zone: 17 UTM Easting: 595368 UTM Northing: 4791397
Section 2 – Owner's Mailing Address	
Same as above (Y / N)	Y
Address	
City	
Province	
Postal code	
Section 3 – Owner's Primary Contact Person	
Name	Andrew Sebestyen
Title	Manager, Environmental Department
Phone	(905) 528-2511 ext 2547
Fax	(905)777-7658
Email address	Andrew.Sebestyen@stelco.com
Section 4 – Additional Facility Information	
NAICS Code	331110, 324190
NPRI ID	2984
MOE ID Number (O. Reg 127/01)	5097
# of Employees	1015
Licence # of Toxic Substance Reduction Planner	TSRP0066

List of Toxic Substances at the Facility

Compound	CAS No.
Acetone	67-64-1
Asbestos (friable form only)	1332-21-4
Benzene	71-43-2
Carbon Monoxide	630-08-0
Chlorine - not chloride	7782-50-5
Chromium VI (and its compounds)	1333-82-0
Ethylene (C2H4)	74-85-1
Hydrogen Sulphide	7783-06-4
Lead	7439-92-1
Manganese	7439-96-5
Mercury	7439-97-6
Methanol	67-56-1
Naphthalene	91-20-3
N-Hexane	110-54-3
Nitrogen oxides (as NO2)	11104-93-1
PAH - Acenaphthylene	208-96-8
PAH - Anthracene	120-12-7
PAH - Benzo(a)anthracene	56-55-3
PAH - Benzo(a)phenanthrene (Chrysene)	218-01-9
PAH - Benzo(a)Pyrene	50-32-8
PAH - Benzo(b)fluoranthene	205-99-2
PAH - Benzo(e)pyrene	192-97-2
PAH - Benzo(g,h,i)perylene	191-24-2
PAH - Benzo(j)fluoranthene	205-82-3
PAH - Benzo(k)fluoranthene	207-08-9
PAH - Dibenzo(a,h)anthracene	53-70-3
PAH - Dibenzo(a,i)pyrene	189-55-9
PAH - Fluoranthene	206-44-0
PAH - Indeno(1,2,3-c,d)pyrene	193-39-5
PAH - Perylene	198-55-0
PAH - Phenanthrene	85-01-8
PAH - Pyrene	129-00-0
Phosphorus total	NA-22
PM10 - Particulate Matter <= 10 Microns	N/A - M09
PM2.5 - Particulate Matter <= 2.5 Microns	N/A - M10
Total Particulate Matter or TSP	N/A - M08
Selenium (and its compounds)	7782-49-2
Sulphur Dioxide	7446-09-5
Sulphuric Acid	7664-93-9
Toluene	108-88-3
Total reduced sulphur (as H2S)	NA - M14
VOC	N/A - M16
Zinc	7440-66-6

2020 Toxic Substance Accounting

Compound	CAS No.	Used, tonnes	Created, tonnes	Destroyed, tonnes	Released to Air, tonnes	Released to Water CitySewer, tonnes	Released to Water Outfall, tonnes	Transferred/ Recycled Offsite, tonnes	Released to Land (Disposed Offsite), tonnes	Total 'As Contained' in Product and Process, tonnes
Acetone	67-64-1	-	> 10 to 100	-	> 10 to 100	-	-	-	-	-
Asbestos (friable form only)	1332-21-4	> 10 to 100	-	-	-	-	-	-	> 10 to 100	-
Benzene	71-43-2	> 1000 to 10000	> 1000 to 10000	> 1000 to 10000	> 10 to 100	-	-	> 0 to 1	-	> 1000 to 10000
Carbon Monoxide	630-08-0	> 10000 to 1000000	> 100 to 1000	> 10000 to 1000000	> 100 to 1000	-	-	-	-	-
Chlorine - not chloride	7782-50-5	-	> 10 to 100	> 10 to 100	> 0 to 1	-	-	-	-	-
Chromium VI (and its compounds)	1333-82-0	> 1 to 10	-	-	-	-	-	-	> 0 to 1	> 1 to 10
Ethylene (C2H4)	74-85-1	> 1 to 10	> 10 to 100	> 1 to 10	> 10 to 100	-	-	-	-	-
Hydrogen Sulphide	7783-06-4	> 100 to 1000	> 10 to 100	> 100 to 1000	> 10 to 100	-	-	-	-	-
Lead	7439-92-1	> 10 to 100	-	-	> 0 to 1	-	-	> 10 to 100	> 1 to 10	> 1 to 10
Manganese	7439-96-5	> 1000 to 10000	-	-	> 1 to 10	-	-	> 10 to 100	> 10 to 100	> 1000 to 10000
Mercury	7439-97-6	> 0 to 1	-	-	> 0 to 1	-	-	> 0 to 1	> 0 to 1	> 0 to 1
Methanol	67-56-1	> 10 to 100	> 1 to 10	-	> 10 to 100	-	-	-	-	-
Naphthalene	91-20-3	> 100 to 1000	> 1000 to 10000	> 100 to 1000	> 1 to 10	-	-	> 0 to 1	> 1 to 10	> 1000 to 10000
N-Hexane	110-54-3	-	> 1 to 10	-	> 1 to 10	-	-	> 0 to 1	-	> 0 to 1
Nitrogen oxides (as NO2)	11104-93-1	-	> 1000 to 10000	-	> 1000 to 10000	-	-	-	-	-
PAH - Acenaphthylene	208-96-8	> 100 to 1000	> 1000 to 10000	> 100 to 1000	> 0 to 1	-	-	-	> 0 to 1	> 1000 to 10000
PAH - Anthracene	120-12-7	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Benzo(a)anthracene	56-55-3	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Benzo(a)phenanthrene (Chrysene)	218-01-9	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Benzo(a)Pyrene	50-32-8	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	> 0 to 1	-	-	> 0 to 1	> 100 to 1000
PAH - Benzo(b)fluoranthene	205-99-2	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Benzo(e)pyrene	192-97-2	> 1 to 10	> 10 to 100	> 1 to 10	> 0 to 1	-	-	-	> 0 to 1	> 10 to 100
PAH - Benzo(g,h,i)perylene	191-24-2	> 0 to 1	> 1 to 10	> 0 to 1	> 0 to 1	-	-	-	> 0 to 1	> 1 to 10
PAH - Benzo(j)fluoranthene	205-82-3	> 1 to 10	> 10 to 100	> 1 to 10	> 0 to 1	-	-	-	> 0 to 1	> 10 to 100
PAH - Benzo(k)fluoranthene	207-08-9	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Dibenzo(a,h)anthracene	53-70-3	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Dibenzo(a,i)pyrene	189-55-9	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Fluoranthene	206-44-0	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Indeno(1,2,3-c,d)pyrene	193-39-5	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
PAH - Perylene	198-55-0	> 1 to 10	> 10 to 100	> 1 to 10	> 0 to 1	-	-	-	> 0 to 1	> 10 to 100
PAH - Phenanthrene	85-01-8	> 100 to 1000	> 1000 to 10000	> 100 to 1000	> 0 to 1	-	-	-	> 0 to 1	> 1000 to 10000
PAH - Pyrene	129-00-0	> 10 to 100	> 100 to 1000	> 10 to 100	> 0 to 1	-	-	-	> 0 to 1	> 100 to 1000
Phosphorus total	NA-22	> 100 to 1000	-	> 100 to 1000	> 0 to 1	> 0 to 1	-	-	> 0 to 1	> 10 to 100
PM10 - Particulate Matter <= 10 Microns	N/A - M09	-	> 100 to 1000	-	> 100 to 1000	-	-	-	-	> 100 to 1000
PM2.5 - Particulate Matter <= 2.5 Microns	N/A - M10	-	> 100 to 1000	-	> 100 to 1000	-	-	-	-	> 100 to 1000
Total Particulate Matter or TSP	N/A - M08	-	> 1000 to 10000	-	> 100 to 1000	-	-	-	-	> 1000 to 10000
Selenium (and its compounds)	7782-49-2	> 1 to 10	-	-	> 0 to 1	-	-	> 0 to 1	> 0 to 1	> 1 to 10
Sulphur Dioxide	7446-09-5	-	> 1000 to 10000	-	> 1000 to 10000	-	-	-	-	-
Sulphuric Acid	7664-93-9	> 10 to 100	-	> 10 to 100	-	-	-	-	-	-
Toluene	108-88-3	> 100 to 1000	> 100 to 1000	> 100 to 1000	> 1 to 10	-	-	> 0 to 1	-	> 100 to 1000
Total reduced sulphur (as H2S)	NA - M14	> 100 to 1000	> 10 to 100	> 100 to 1000	> 10 to 100	-	-	-	-	> 10 to 100
VOC - see speciated VOC	N/A - M16	-	> 100 to 1000	-	> 100 to 1000	-	-	-	-	-
Zinc	7440-66-6	> 10000 to 1000000	-	-	> 0 to 1	-	-	> 1000 to 10000	> 0 to 1	> 10000 to 1000000

Comparison of Quantification (2020) to Previous Reporting Period (2019) - % Change

Compound	CAS No.	Used	Created	Destroyed	Released to Air, tonnes	Released to Water CitySewer	Released to Water Outfall	Transferred/Recycled Offsite	Released to Land (Disposed Offsite)	Total 'As Contained' in Product and Process	Reason of % Difference in Used or Created or Released Quantities
Acetone	67-64-1		1.14		1.14						Slight increase in coke production
Asbestos (friable form only)	1332-21-4	(81.24)							(81.24)		Reduced demolition involving asbestos
Benzene	71-43-2	(0.99)	(2.65)	(0.99)	10.16			(69.49)		(2.68)	Revised EF; Lesser coke breeze shipment
Carbon Monoxide	630-08-0	(0.99)	(8.72)	(0.99)	(8.72)						Reduced use of nat gas and flaring of COG
Chlorine - not chloride	7782-50-5		41.28	41.28	1.14						Increased use of baywater and chlorination
Chromium VI (and its compounds)	1333-82-0	2.31							22.55	2.30	Increased disposal of spent passivation
Ethylene (C2H4)	74-85-1	(0.99)	0.35	(0.99)	0.35						No significant change
Hydrogen Sulphide	7783-06-4	(0.99)	0.35	(0.99)	0.35						No significant change
Lead	7439-92-1	(29.42)			1.74			(45.81)	5923.51	1.15	Dust disposal from Sinter Plant demolition
Manganese	7439-96-5	(1.58)			2.13			(53.65)	9832.95	0.29	Dust disposal from Sinter Plant demolition
Mercury	7439-97-6	0.38			0.35			(83.60)	(14.14)	1.28	Reduced tar wastes & coke breeze shipment
Methanol	67-56-1	13.21	1.14		10.58						Increased purchase of lute material
Naphthalene	91-20-3	(0.90)	3.58	(0.90)	(20.21)			(69.49)	(14.14)	3.61	Revised EF; Lesser coke breeze shipment
N-Hexane	110-54-3		(17.83)		(17.90)			(69.49)		16.15	Reduced use of natural gas & coke breeze
Nitrogen oxides (as NO2)	11104-93-1		1.28		1.28						Increased use of natural gas in Batch Anneal
PAH - Acenaphthylene	208-96-8	(0.90)	6.36	(0.99)	(17.90)				(14.14)	6.35	Reduced use of nat gas & tar waste shipment
PAH - Anthracene	120-12-7	(0.90)	6.36	(0.99)	8.28				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(a)anthracene	56-55-3	(0.90)	6.35	(0.99)	1.25				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(a)phenanthrene (Chryse	218-01-9	(0.90)	6.35	(0.99)	1.29				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(a)Pyrene	50-32-8	(0.90)	6.36	(0.99)	1.29	5616.05	(100.00)		(14.14)	6.35	Unresolved issue with PAH carryover to sewer
PAH - Benzo(b)fluoranthene	205-99-2	(0.90)	6.35	(0.99)	1.27				(14.28)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(e)pyrene	192-97-2	(0.90)	6.35	(0.99)	1.17				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(g,h,i)perylene	191-24-2	(0.90)	6.35	(0.99)	1.17				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(j)fluoranthene	205-82-3	(0.90)	6.35	(0.99)	1.19				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Benzo(k)fluoranthene	207-08-9	(0.90)	6.35	(0.99)	1.35				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Dibenzo(a,h)anthracene	53-70-3	(0.90)	6.36	(0.99)	2.25				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Dibenzo(a,i)pyrene	189-55-9	(0.90)	6.36	(0.99)	9.52				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Fluoranthene	206-44-0	(0.90)	6.35	(0.99)	1.21				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Indeno(1,2,3-c,d)pyrene	193-39-5	(0.90)	6.35	(0.99)	1.27				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Perylene	198-55-0	(0.90)	6.35	(0.99)	1.29				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Phenanthrene	85-01-8	(0.90)	6.35	(0.99)	1.18				(14.14)	6.35	Increased tar production; Reduced tar wastes
PAH - Pyrene	129-00-0	(0.90)	6.35	(0.99)	1.22				(14.14)	6.35	Increased tar production; Reduced tar wastes
Phosphorus total	NA-22	(2.70)		33.36	2.13	207.79	(100.00)		(14.14)	(25.88)	Unresolved issue with PAH carryover to sewer
PM10 - Particulate Matter <= 10 Micro	N/A - M09		(6.05)		0.77					(9.94)	More oiling for dust suppression last year
PM2.5 - Particulate Matter <= 2.5 Micr	N/A - M10		(7.23)		0.29					(12.21)	More oiling for dust suppression last year
Total Particulate Matter or TSP	N/A - M08		(6.87)		0.64					(10.07)	More oiling for dust suppression last year
Selenium (and its compounds)	7782-49-2	1.14			2.13			(69.49)	(14.14)	0.18	Lesser coke breeze shipment
Sulphur Dioxide	7446-09-5		(2.51)		(2.51)						Reduced flaring of coke oven gas
Sulphuric Acid	7664-93-9	(3.41)		(3.39)					(100.00)		No spent acid disposal this year
Toluene	108-88-3	(0.99)	9.26	(0.99)	(1.41)			(69.49)		9.28	Revised EF; Lesser coke breeze shipment
Total reduced sulphur (as H2S)	NA - M14	(0.99)	5.28	(0.99)	0.31					8.62	Increased content of CS2 in Light Oil product
VOC	N/A - M16		(0.53)		(0.53)						No significant change
Zinc	7440-66-6	(5.60)			2.13			(18.36)	2642.36	(3.81)	Dust disposal from Sinter Plant demolition

Comparison of Quantification (2020) to Previous Reporting Period (2019) - Quantity Change

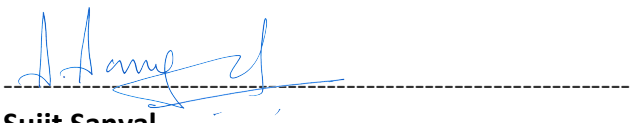
Compound	CAS No.	Used, tonnes	Created, tonnes	Destroyed, tonnes	Released to Air, tonnes	Released to Water CitySewer, tonnes	Released to Water Outfall, tonnes	Transferred/Recycled Offsite, tonnes	Released to Land (Disposed Offsite), tonnes	Total 'As Contained' in Product and Process	In (Total), tonnes	Out (Total), tonnes
Acetone	67-64-1	-	0.35	-	0.35	-	-	-	-	-	0.35	0.35
Asbestos (friable form only)	1332-21-4	(170.81)	-	-	-	-	-	-	(170.81)	-	(170.81)	(170.81)
Benzene	71-43-2	(39.58)	(150.01)	(39.58)	1.59	-	-	(0.00)	-	(151.61)	(189.59)	(189.59)
Carbon Monoxide	630-08-0	(109.45)	(14.27)	(109.45)	(14.27)	-	-	-	-	-	(123.73)	(123.73)
Chlorine - not chloride	7782-50-5	-	5.41	5.41	0.00	-	-	-	-	-	5.41	5.41
Chromium VI (and its compounds)	1333-82-0	0.04	-	-	-	-	-	-	0.00	0.04	0.04	0.04
Ethylene (C2H4)	74-85-1	(0.03)	0.06	(0.03)	0.06	-	-	-	-	-	0.03	0.03
Hydrogen Sulphide	7783-06-4	(1.70)	0.07	(1.70)	0.07	-	-	-	-	-	(1.63)	(1.63)
Lead	7439-92-1	(9.68)	-	-	0.00	-	-	(11.76)	2.03	0.06	(9.68)	(9.67)
Manganese	7439-96-5	(50.11)	-	-	0.04	-	-	(115.12)	56.49	8.49	(50.11)	(50.11)
Mercury	7439-97-6	0.00	-	-	0.00	-	-	(0.00)	(0.00)	0.00	0.00	0.00
Methanol	67-56-1	1.46	0.04	-	1.49	-	-	-	-	-	1.49	1.49
Naphthalene	91-20-3	(3.73)	158.44	(3.73)	(0.52)	-	-	(0.00)	(0.45)	159.42	154.71	154.71
N-Hexane	110-54-3	-	(0.27)	-	(0.27)	-	-	(0.00)	-	0.00	(0.27)	(0.27)
Nitrogen oxides (as NO2)	11104-93-1	-	17.43	-	17.43	-	-	-	-	-	17.43	17.43
PAH - Acenaphthylene	208-96-8	(0.97)	62.71	(1.02)	(0.00)	-	-	-	(0.12)	62.88	61.74	61.74
PAH - Anthracene	120-12-7	(0.68)	44.32	(0.72)	0.00	-	-	-	(0.08)	44.44	43.64	43.64
PAH - Benzo(a)anthracene	56-55-3	(0.31)	20.34	(0.33)	0.00	-	-	-	(0.04)	20.39	20.02	20.02
PAH - Benzo(a)phenanthrene (Chryse	218-01-9	(0.48)	31.20	(0.51)	0.00	-	-	-	(0.06)	31.28	30.72	30.72
PAH - Benzo(a)Pyrene	50-32-8	(0.30)	19.54	(0.32)	0.00	0.01	(0.00)	-	(0.04)	19.59	19.24	19.24
PAH - Benzo(b)fluoranthene	205-99-2	(0.30)	19.20	(0.31)	0.00	-	-	-	(0.04)	19.25	18.91	18.91
PAH - Benzo(e)pyrene	192-97-2	(0.01)	0.78	(0.01)	0.00	-	-	-	(0.00)	0.78	0.77	0.77
PAH - Benzo(g,h,i)perylene	191-24-2	(0.01)	0.53	(0.01)	0.00	-	-	-	(0.00)	0.53	0.52	0.52
PAH - Benzo(j)fluoranthene	205-82-3	(0.02)	1.31	(0.02)	0.00	-	-	-	(0.00)	1.31	1.29	1.29
PAH - Benzo(k)fluoranthene	207-08-9	(0.19)	12.33	(0.20)	0.00	-	-	-	(0.02)	12.36	12.14	12.14
PAH - Dibenzo(a,h)anthracene	53-70-3	(0.34)	21.80	(0.36)	0.00	-	-	-	(0.04)	21.86	21.46	21.46
PAH - Dibenzo(a,i)pyrene	189-55-9	(0.30)	19.53	(0.32)	0.00	-	-	-	(0.04)	19.59	19.23	19.23
PAH - Fluoranthene	206-44-0	(0.63)	41.04	(0.67)	0.00	-	-	-	(0.08)	41.15	40.41	40.41
PAH - Indeno(1,2,3-c,d)pyrene	193-39-5	(0.11)	7.38	(0.12)	0.00	-	-	-	(0.01)	7.40	7.27	7.27
PAH - Perylene	198-55-0	(0.08)	5.22	(0.08)	0.00	-	-	-	(0.01)	5.23	5.14	5.14
PAH - Phenanthrene	85-01-8	(0.99)	64.02	(1.04)	0.00	-	-	-	(0.12)	64.19	63.03	63.03
PAH - Pyrene	129-00-0	(0.53)	34.36	(0.56)	0.00	-	-	-	(0.06)	34.45	33.83	33.83
Phosphorus total	NA-22	(5.59)	-	26.88	0.00	0.21	(0.01)	-	(0.01)	(32.66)	(5.59)	(5.59)
PM10 - Particulate Matter <= 10 Micro	N/A - M09	-	(47.29)	-	2.19	-	-	-	-	(49.47)	(47.29)	(47.29)
PM2.5 - Particulate Matter <= 2.5 Micr	N/A - M10	-	(37.29)	-	0.59	-	-	-	-	(37.88)	(37.29)	(37.29)
Total Particulate Matter or TSP	N/A - M08	-	(143.85)	-	4.02	-	-	-	-	(147.87)	(143.85)	(143.85)
Selenium (and its compounds)	7782-49-2	0.03	-	-	0.00	-	-	(0.01)	(0.00)	0.00	0.03	(0.01)
Sulphur Dioxide	7446-09-5	-	(63.05)	-	(63.05)	-	-	-	-	-	(63.05)	(63.05)
Sulphuric Acid	7664-93-9	(3.17)	-	(3.16)	-	-	-	-	(0.01)	-	(3.17)	(3.17)
Toluene	108-88-3	(2.08)	55.69	(2.08)	(0.01)	-	-	(0.00)	-	55.70	53.60	53.60
Total reduced sulphur (as H2S)	NA - M14	(2.44)	2.54	(2.44)	0.06	-	-	-	-	2.48	0.10	0.10
VOC	N/A - M16	-	(0.80)	-	(0.80)	-	-	-	-	-	(0.80)	(0.80)
Zinc	7440-66-6	(672.74)	-	-	0.00	-	-	(273.06)	0.82	(400.49)	(672.74)	(672.73)

Progress of Toxic Substances Reduction Plans

				2020 Reduction, tonnes			2019 Reduction, tonnes			Plan Timeline	Additional	Plan	Reduction Steps
Compound	**CAS No.**	**Objectives Per Current Version of the Plan**	**Targets, Tonnes**	**Use**	**Creation**	**Discharges**	**Use**	**Creation**	**Discharges**	**Met?**	**Plan?**	**Amendment**	**Taken vs. Plan**
Acetone	67-64-1	to reduce creation to the extent that circumstances permit.	none										
Asbestos (friable form only)	1332-21-4	to reduce usage to the extent that circumstances permit.	none										
Benzene	71-43-2	to reduce creation to the extent that circumstances permit.	none										
Carbon Monoxide	630-08-0	to reduce creation to the extent that circumstances permit.	24.8		35.3	35.3		37.2	37.2	yes	none	none	same
Chlorine - not chloride	7782-50-5	to reduce creation to the extent that circumstances permit.	16.2		59.2			67.0		yes	none	none	same
Chromium VI (and its compounds)	1333-82-0	to reduce usage to the extent that circumstances permit.	none										
Ethylene (C2H4)	74-85-1	to reduce creation to the extent that circumstances permit.	none										
Hydrogen Sulphide	7783-06-4	to reduce creation to the extent that circumstances permit.	none										
Lead	7439-92-1	to reduce usage to the extent that circumstances permit.	none										
Manganese	7439-96-5	to reduce usage to the extent that circumstances permit.	none										
Mercury	7439-97-6	to reduce usage to the extent that circumstances permit.	0.00118	5.31E-05			0.000127			yes	none	none	same
Methanol	67-56-1	to reduce usage to the extent that circumstances permit.	1.15	0			0			no	none	none	same
Naphthalene	91-20-3	to reduce creation to the extent that circumstances permit.	0.0028		0.0030	0.0030		0.0030	0.0030	yes	none	none	same
N-Hexane	110-54-3	to reduce creation to the extent that circumstances permit.	0.52		0.754	0.7539		0.796	0.7959	yes	none	none	same
Nitrogen oxides (as NO2)	11104-93-1	to reduce creation to the extent that circumstances permit.	32.45		46.19	46.1946		48.77	48.7693	yes	none	none	same
PAH - Acenaphthylene	208-96-8	to reduce creation to the extent that circumstances permit.	0.7165		0.7749	0.7749		0.7746	0.7746	yes	none	Updated targets	same
PAH - Anthracene	120-12-7	to reduce creation to the extent that circumstances permit.	0.5064		0.5477	0.5477		0.5472	0.5472	yes	none	Updated targets	same
PAH - Benzo(a)anthracene	56-55-3	to reduce creation to the extent that circumstances permit.	0.2324		0.2513	0.2513		0.2511	0.2511	yes	none	Updated targets	same
PAH - Benzo(a)phenanthrene (Chrysene)	218-01-9	to reduce creation to the extent that circumstances permit.	0.3565		0.3855	0.3855		0.3851	0.3851	yes	none	Updated targets	same
PAH - Benzo(a)Pyrene	50-32-8	to reduce creation to the extent that circumstances permit.	0.2232		0.2414	0.2414		0.2412	0.2412	yes	none	Updated targets	same
PAH - Benzo(b)fluoranthene	205-99-2	to reduce creation to the extent that circumstances permit.	0.2194		0.2373	0.2373		0.2371	0.2371	yes	none	Updated targets	same
PAH - Benzo(e)pyrene	192-97-2	to reduce creation to the extent that circumstances permit.	0.0089		0.0097	0.0097		0.0096	0.0096	yes	none	Updated targets	same
PAH - Benzo(g,h,i)perylene	191-24-2	to reduce creation to the extent that circumstances permit.	0.0060		0.0065	0.0065		0.0065	0.0065	yes	none	Updated targets	same
PAH - Benzo(j)fluoranthene	205-82-3	to reduce creation to the extent that circumstances permit.	0.0150		0.0162	0.0162		0.0162	0.0162	yes	none	Updated targets	same
PAH - Benzo(k)fluoranthene	207-08-9	to reduce creation to the extent that circumstances permit.	0.1408		0.1523	0.1523		0.1522	0.1522	yes	none	Updated targets	same
PAH - Dibenzo(a,h)anthracene	53-70-3	to reduce creation to the extent that circumstances permit.	0.2491		0.2694	0.2694		0.2691	0.2691	yes	none	Updated targets	same
PAH - Dibenzo(a,i)pyrene	189-55-9	to reduce creation to the extent that circumstances permit.	0.2232		0.2414	0.2414		0.2412	0.2412	yes	none	Updated targets	same
PAH - Fluoranthene	206-44-0	to reduce creation to the extent that circumstances permit.	0.4689		0.5072	0.5072		0.5067	0.5067	yes	none	Updated targets	same
PAH - Indeno(1,2,3-c,d)pyrene	193-39-5	to reduce creation to the extent that circumstances permit.	0.0844		0.0912	0.0912		0.0912	0.0912	yes	none	Updated targets	same
PAH - Perylene	198-55-0	to reduce creation to the extent that circumstances permit.	0.0596		0.0645	0.0645		0.0644	0.0644	yes	none	Updated targets	same
PAH - Phenanthrene	85-01-8	to reduce creation to the extent that circumstances permit.	0.7314		0.7911	0.7911		0.7903	0.7903	yes	none	Updated targets	same
PAH - Pyrene	129-00-0	to reduce creation to the extent that circumstances permit.	0.0844		0.424625	0.424625		0.424206	0.4242062	yes	none	Updated targets	same
Phosphorus total	NA-22	to reduce usage to the extent that circumstances permit.	1.75	0.765157			0.237204			yes	none	none	same
PM10 - Particulate Matter <= 10 Microns	N/A - M09	to reduce creation to the extent that circumstances permit.	121.04		53.260	53.260		55.119	55.119	yes	none	none	same
PM2.5 - Particulate Matter <= 2.5 Microns	N/A - M10	to reduce creation to the extent that circumstances permit.	121.04		6.05	6.05		6.30	6.30	yes	none	none	same
Total Particulate Matter or TSP	N/A - M08	to reduce creation to the extent that circumstances permit.	121.04		224.47	224.47		234.16	234.16	yes	none	none	same
Selenium (and its compounds)	7782-49-2	to reduce usage to the extent that circumstances permit.	none										
Sulphur Dioxide	7446-09-5	to reduce creation to the extent that circumstances permit.	0.19		0.252223			0.26628		yes	none	none	same
Sulphuric Acid	7664-93-9	to reduce usage to the extent that circumstances permit.	3.6	0			0			no	none	none	same
Toluene	108-88-3	to reduce creation to the extent that circumstances permit.	none										
Total reduced sulphur (as H2S)	NA-M14	to reduce creation to the extent that circumstances permit.	none										
VOC - see below re speciated VOC	N/A - M16	to reduce creation to the extent that circumstances permit.	none										
Zinc	7440-66-6	to reduce usage to the extent that circumstances permit.	20.2	13.31989			12.55162			yes	none	Updated targets	same

Certification

As of *June 24, 2021*, I, *Sujit Sanyal*, certify that I have read the records created for the purposes of section 11.2 of Ontario Regulation 455/09 (General) made under the Toxics Reductions Act, (2009) in respect of the use and creation of the toxic substances referred to above and am familiar with their contents and to my knowledge they are factually accurate.



Sujit Sanyal
Chief Operating Officer
Stelco Inc.