



U. S. Steel Canada
A Subsidiary of United States Steel

Hamilton Works
2010 Annual Toxics Reduction Report
(O. Reg. 455/09)

Issued June 14, 2011

Basic Facility Information

| Section 1 – Facility Information | |
|---|-------------------------------|
| Owner | US Steel Canada |
| Facility name | Hamilton Works |
| Address | 386 Wilcox St., P.O. Box 2030 |
| City | Hamilton |
| Province | Ontario |
| Postal Code | L8N 3T1 |
| Section 2 – Owner’s Mailing Address | |
| Same as above (Y / N) | Yes |
| Address | |
| City | |
| Province | |
| Postal code | |
| Section 3 – Owner’s Technical Contact Person | |
| Same as above (Y / N) | Andrew Sebestyen |
| Title | Manager, Environment |
| Phone | (905) 527-8335 ext 5403 |
| Fax | (905) 777-7614 |
| Email address | asebestyen@uss.com |

Basic Facility Information (Cont.)

Hamilton Works is located on 390 hectares of land on the shores of Hamilton Harbour. Hamilton Works is an integrated steel plant and produces approximately 2.5 million tonnes of steel per year. Process operations at the plant include Cokemaking, Ironmaking, Basic Oxygen Furnace Steelmaking, Continuous Casting, Rolling and Finishing and Galvanizing.

Raw materials (coal and iron ore) are brought to the area by self-unloading ships. Coal is heated in the Coke Ovens, where volatile components of coal are vapourized and the remaining carbon is transformed into coke. The coke is then used as a reductant in the Blast Furnace. The gas generated during coking fuels the coking battery and is used in the Central Boiler Station to generate steam for the operation. The volatile components generated during coking are separated in an adjacent By-Products Plant and are sold.

Coke, iron ore pellets, and dolomite are conveyed to the Blast Furnace, which has a capacity to produce 6,000 tonne/day of molten pig iron. From the Blast Furnace, molten iron is carried to the steelmaking shop in specialized railway cars where it is charged into two Basic Oxygen Furnaces. After mixing the molten iron with scrap steel, fluxes and additives, oxygen is blown into the melt to remove carbon and impurities. The molten steel is treated to adjust its composition to meet the requirements of the final product then transferred to the Continuous Casting process.

The casting complex consists of two casting strands in which the molten steel is solidified into steel slabs. Most slabs cast at Hamilton Works are rolled in the Lake Erie Works Hot Strip Mill although some are shipped to other U. S. Steel facilities or sold.

Coils from Lake Erie Works Hot Strip Mill are returned to Hamilton Works for processing in the 4-Stand Cold Rolling Mill. Some coils are further processed in the Z-Line Galvanizing line.

The plant has extensive environmental control measures. Hamilton Harbour water is used in the production of steel and is cleaned by our water filtration plant and treated before exiting the plant. Air cleaning equipment is used at the Coke Ovens, Blast Furnace and Basic Oxygen Furnaces to minimize emissions.

List of Toxic Substances at the Facility

| Substance | Chemical Abstracts Service Number |
|--------------------------|-----------------------------------|
| Arsenic | ** |
| Benzene | 71-43-2 |
| Cadmium | ** |
| Chlorine | 7782-50-5 |
| Chromium | ** |
| Copper | ** |
| Hydrochloric Acid | 7647-01-0 |
| Lead | ** |
| Manganese | ** |
| Mercury | ** |
| Methanol | 67-56-1 |
| Toluene | 108-88-3 |
| Acenaphthene | 83-32-9 |
| Acenaphthylene | 208-96-8 |
| Benzo(a)anthracene | 56-55-3 |
| Benzo(a)phenanthrene | 218-01-9 |
| Benzo(a)pyrene | 50-32-8 |
| Benzo(b)fluoranthene | 205-99-2 |
| Benzo(e)pyrene | 192-97-2 |
| Benzo(g,h,i)perylene | 191-24-2 |
| Benzo(j)fluoranthene | 205-82-3 |
| Benzo(k)fluoranthene | 207-08-9 |
| Dibenzo(a,j)acridine | 224-41-0 |
| Dibenzo(a,h)anthracene | 53-70-3 |
| Dibenzo(a,i)pyrene | 189-55-9 |
| 7H-Dibenzo(c,g)carbazole | 194-59-2 |
| Fluoranthene | 206-44-0 |
| Fluorene | 86-73-7 |
| Indeno(1,2,3-c,d)pyrene | 193-39-5 |
| Naphthalene | 91-20-3 |
| Nickel | 7440-02-0 |
| Perylene | 198-55-0 |
| Phenanthrene | 85-01-8 |
| Phenol | 108-95-2 |
| Pyrene | 129-00-0 |
| Vanadium | 7440-62-2 |
| Xylene | 1330-20-7 |
| Zinc | ** |

** No single CAS number applies to this substance

Summary: Tracking and Quantification

| Substances | Usage | Creation | Destruction | Releases to Water | Releases to Air | Disposal | Recycling | Contained in Product |
|--------------------------|-------------------|-------------------|-------------|-------------------|-----------------|---------------|-------------------|----------------------|
| | tonnes | tonnes | tonnes | tonnes | tonnes | tonnes | tonnes | tonnes |
| Arsenic | > 10 to 100 | 0 | 0 | 0 | > 0 to 1 | 0 | 0 | > 10 to 100 |
| Benzene | 0 | > 1,000 to 10,000 | 0 | > 0 to 1 | > 10 to 100 | 0 | 0 | > 1,000 to 10,000 |
| Cadmium | > 1 to 10 | 0 | 0 | > 0 to 1 | > 0 to 1 | > 0 to 1 | 0 | > 0 to 1 |
| Chlorine | > 10 to 100 | 0 | > 10 to 100 | > 0 to 1 | 0 | 0 | 0 | 0 |
| Chromium | > 100 to 1000 | 0 | 0 | > 0 to 1 | > 0 to 1 | > 0 to 1 | > 100 to 1000 | > 100 to 1000 |
| Copper | > 100 to 1000 | 0 | 0 | > 0 to 1 | > 0 to 1 | > 1 to 10 | > 1 to 10 | > 100 to 1000 |
| Hydrochloric Acid | > 1,000 to 10,000 | 0 | 0 | 0 | > 0 to 1 | 0 | > 1,000 to 10,000 | 0 |
| Lead | > 10 to 100 | 0 | 0 | > 0 to 1 | > 0 to 1 | > 10 to 100 | > 1 to 10 | > 1 to 10 |
| Manganese | > 1,000 to 10,000 | 0 | 0 | 0 | > 0 to 1 | > 100 to 1000 | > 1,000 to 10,000 | > 1,000 to 10,000 |
| Mercury | > 0 to 1 | 0 | 0 | > 0 to 1 | > 0 to 1 | > 0 to 1 | > 0 to 1 | > 0 to 1 |
| Methanol | 0 | > 1 to 10 | 0 | 0 | > 1 to 10 | 0 | 0 | 0 |
| Toluene | 0 | > 100 to 1000 | 0 | 0 | > 1 to 10 | 0 | 0 | > 100 to 1000 |
| Acenaphthene | 0 | > 0 to 1 | 0 | 0 | > 0 to 1 | 0 | 0 | > 0 to 1 |
| Acenaphthylene | 0 | > 100 to 1000 | 0 | 0 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Benzo(a)anthracene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Benzo(a)phenanthrene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Benzo(a)pyrene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Benzo(b)fluoranthene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Benzo(e)pyrene | 0 | > 1 to 10 | 0 | 0 | > 0 to 1 | 0 | 0 | > 1 to 10 |
| Benzo(g,h,i)perylene | 0 | > 1 to 10 | 0 | 0 | > 0 to 1 | 0 | 0 | > 1 to 10 |
| Benzo(j)fluoranthene | 0 | > 10 to 100 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 10 to 100 |
| Benzo(k)fluoranthene | 0 | > 10 to 100 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 10 to 100 |
| Dibenzo(a,j)acridine | 0 | > 0 to 1 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 0 to 1 |
| Dibenzo(a,h)anthracene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Dibenzo(a,i)pyrene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| 7H-Dibenzo(c,g)carbazole | 0 | > 0 to 1 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 0 to 1 |
| Fluoranthene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Fluorene | 0 | > 0 to 1 | 0 | 0 | > 0 to 1 | 0 | 0 | 0 |
| Indeno(1,2,3-c,d)pyrene | 0 | > 10 to 100 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 10 to 100 |
| Naphthalene | 0 | > 1,000 to 10,000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 1,000 to 10,000 |
| Nickel | 0 | 0 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 0 to 1 |
| Perylene | 0 | > 10 to 100 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 10 to 100 |
| Phenanthrene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Pyrene | 0 | > 100 to 1000 | 0 | > 0 to 1 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Phenol | 0 | > 10 to 100 | > 10 to 100 | 0 | > 0 to 1 | 0 | 0 | > 100 to 1000 |
| Vanadium | > 10 to 100 | 0 | 0 | 0 | > 0 to 1 | > 1 to 10 | > 10 to 100 | > 1 to 10 |
| Xylene | 0 | > 10 to 100 | 0 | 0 | > 0 to 1 | 0 | 0 | > 10 to 100 |
| Zinc | > 100 to 1000 | 0 | 0 | > 0 to 1 | > 0 to 1 | > 100 to 1000 | > 10 to 100 | > 1 to 10 |