



Toxics Reduction Act – Public Summary Report – 2015 Reporting Year

Ford Essex Engine Plant

A. FACILITY INFORMATION

The Essex Engine Plant machines and assembles engine components to produce complete automotive engine assemblies, including the 5.0L V8 engine. The main facility processes consist of machining, assembly, and engine research, development and testing.

Address	1 Quality Way Windsor, Ontario N9A 6X3
Spatial Coordinates	340918 m E, 4684629 m N
NPRI/MOECC IDs	NPRI = 3886 MOECC = 6376
No. of Employees	857
Primary Operation	Engine Machining and Assembly Plant, Engine Research, Development and Testing
NAICS Code	33 – Manufacturing 3363 – Motor Vehicle Parts Manufacturing 336310 – Motor Vehicle Gasoline Engine and Engine Parts Manufacturing
Facility Contact	Mr. Robert Niemi Ford Motor Company Environmental Quality Office 290 Town Center Drive Suite 800 Dearborn, Michigan 49126 Phone: (313) 206-8034 Email: rniemi1@ford.com
Parent Company	Ford Motor Company of Canada Limited 100 The Canadian Road Oakville, Ontario L6J 5E4



B. TOXIC SUBSTANCE ACCOUNTING

Substances Reported	CAS#	Primary Use/Source
<i>NPRI Part 1 Substances</i>		
Copper (and its compounds)	n/a	Machining/assembly
Manganese (and its compounds)	n/a	Machining/assembly
<i>NPRI Part 4 Substances</i>		
Oxides of Nitrogen	11104-93-1	Dynamometer testing/fuel combustion
Carbon Monoxide	630-08-0	Dynamometer testing/fuel combustion
Particulate Matter ≤ 10 micron (PM10)	n/a	Machining/assembly/dynamometer testing/fuel combustion/cooling towers
Particulate Matter ≤ 2.5 micron (PM2.5)	n/a	Machining/assembly/dynamometer testing/fuel combustion/cooling towers

Accounting Details

Substance/Category	Accounting Quantities				Reason for Change
	2014	2015	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Copper (and its compounds)					
Used	328.9	312.7	16.2	↓5%	n/a
Created	0	0	0.0	0%	n/a
Contained in Product	268.1	258.0	10.1	↓4%	n/a
Released to Air	0.085	0.072	0.013	↓15%	Decreased production resulted in decreased air emission. Adjustment of copper emission rates based on 2015 ESDM update were also made.
Released to Water	0	0	0.0	0%	n/a
Transfer for Disposal	0.006	0.009	0.003	↑50%	Increase volume of OWTP effluent and



Substance/Category	Accounting Quantities				Reason for Change
	2014	2015	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
					increased copper concentration in OWTP effluent resulted in an increased disposal.
Transfer for Recycle	56.157	53.439	2.718	↓5%	n/a
Manganese (and its compounds)					
Used	226.6	208.8	17.8	↓8%	n/a
Created	0	0	0.0	0%	n/a
Contained in Product	169.1	157.5	11.6	↓7%	n/a
Released to Air	0.022	0.022	0.000	0%	n/a
Released to Water	0	0	0.0	0%	n/a
Transfer for Disposal	0.004	0.007	0.003	↑75%	Increase volume of OWTP effluent and increased manganese concentration in OWTP effluent resulted in an increased disposal.
Transfer for Recycle	59.205	55.915	3.290	↓6%	n/a
Oxides of Nitrogen					
Used	0	0	0.0	n/a	n/a
Created	63.861	82.645	18.784	↑29%	Increased natural gas usage and Dyno activity in 2015.
Released to Air	63.861	82.645	18.784	↑29%	Increased natural gas usage and Dyno activity in 2015.
Carbon Monoxide					
Used	0	0	0.0	n/a	n/a
Created	318.816	365.108	46.292	↑14%	Increased Dyno activity in 2015.
Released to Air	318.816	365.108	46.292	↑14%	Increased Dyno activity in 2015.
Particulate Matter ≤ 10 micron (PM10)					
Used	0	0	0.0	n/a	n/a
Created	76.096	67.167	8.929	↓12%	Decreased production resulted in decreased creation of PM10 in machining departments.
Released to Air	7.734	8.362	0.628	↑8%	Increased Dyno activity in 2015.



Substance/Category	Accounting Quantities				Reason for Change
	2014	2015	Annual Comparison		
	(tonne)	(tonne)	(tonne)	(%)	
Particulate Matter ≤ 2.5 micron (PM2.5)					
Used	0	0	0.0	n/a	n/a
Created	39.349	35.450	3.899	↓10%	Decreased production resulted in decreased creation of PM2.5 in machining departments.
Released to Air	6.966	7.595	0.629	↑9%	Increased Dyno activity in 2015.

C. TOXIC SUBSTANCE REDUCTION PLANNING

Objectives & Targets

Substance	Objectives & Targets	Reduction Option Progress
Copper (and its compounds)	Reduce the use of Copper (and its compounds) by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	In 2015, first time through numbers for the site improved (increased) by approximately 1.3%. All team leaders and process coaches participated in the Ford Production System (FPS) training which included a review of all FPS elements (safety, quality, delivery, cost, people, maintenance and environment).
Manganese (and its compounds)	Reduce the use of Manganese (and its compounds) by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	
Oxides of Nitrogen and Carbon Monoxide	Reduce the creation of Oxides of Nitrogen and Carbon Monoxide by investigating reduced temperature set points for natural gas equipment and instituting operating practices to reduce run-time.	Adjustment of run time based on indoor and outdoor temperatures and forecasts is completed continuously. Large boilers are being shut down earlier in the year and re-started later in the year than has typically been done in the past. Small door heaters are used for supplemental heat if needed. Doors are monitored to ensure they remain closed.



Substance	Objectives & Targets	Reduction Option Progress
Particulate Matter \leq 10 micron (PM10) and Particulate Matter \leq 2.5 micron (PM2.5)	Reduce the creation of PM10 and PM2.5 by replacing/upgrading a cooling tower (CT-1 or CT-3) at the site and by implementing improved operating procedures and training efforts with a goal of improving department specific first time through numbers.	Replacement of cooling tower 1 was completed in 2015. All team leaders and process coaches participated in the Ford Production System (FPS) training which included a review of all FPS elements (safety, quality, delivery, cost, people, maintenance and environment).

Annual Report Certification Statement

As of May 31, 2016, I certify that I have read the report(s) on the toxic substance reduction plan(s) for the toxic substances included above, and am familiar with its/their contents and to my knowledge the information contained in the report(s) is factually accurate and the report complies/reports comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under the Act.

Tony Savoni, Site Operations Manager

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