

TOXIC SUBSTANCE REDUCTION PLAN SUMMARY

This Toxic Substance Reduction Plan Summary has been prepared in accordance with Section 8(2) of the Toxics Reduction Act and satisfies the minimum Plan Summary content requirements stipulated in Section 24 of Ontario Regulation 455/09.

Basic Facility Information

Mandatory Basic Facility Information Item	Details
Substance Name and Chemical Abstracts Service (CAS) Registry Number, if any	This is a Master Document which provides supporting information for Toxic Substance Reduction Plans for the following Substances: Particulate Matter <= 100 Microns (PM), PM ₁₀ - Particulate Matter <= 10 Microns (PM ₁₀) and PM _{2.5} - Particulate Matter <= 2.5 Microns (PM _{2.5}) (Per O.Reg. 455/09; "no single CAS numbers apply to these substances")
NPRI and O. Reg. 127/01 Identification Numbers	NPRI ID: 3541 O.Reg.127/01 ID: 5103
The legal and trade names of the owner and the operator of the facility, the street address of the facility and the mailing address of the facility, if different	Essroc Italcementi Group – Picton Cement Plant 1370 Highway 49 South Picton, Ontario K0K 2T0
The number of full time employee equivalents at the facility	137
The two- and four-digit North American Industry Classification System (NAICS) codes and the six-digit NAICS Canada code	32 - Manufacturing 3273 – Cement and Concrete Product Manufacturing 327310 – Cement Manufacturing
Public contact, technical contact and person who is responsible for coordinating plan preparation	Anthony Jones Regional Environmental Manager 1370 Highway 49 South Picton, Ontario K0K 2T0 anthony.jones@essroc.com (613) 476-8646
The person who prepared the plan	Jonathan Michael Fabro Toxic Substance Reduction Planner Golder Associates Ltd. – 309 Exeter Road, Unit #1 London, ON N6L 1C1 (519) 652-0099
Highest Ranking employee at the facility who has management responsibilities relating to the facility and who is responsible for making certification	Anthony Jones Regional Environmental Manager 1370 Highway 49 South Picton, Ontario K0K 2T0 anthony.jones@essroc.com (613) 476-8646
The spatial coordinates of the facility expressed in Universal Transverse Mercator (UTM) within a North American Datum 83 (NAD83) datum	330011.27, 4880204.50, Zone 18T
Parent Company Information	Essroc Italcementi Group 3251 Bath Pike Nazareth, PA 18064

List of All Substances for which Toxic Substance Reduction Plans Have Been Prepared at the Facility

The Facility has prepared Toxic Substance Reduction Plans for the following prescribed Toxic Substances:

Chromium*

Mercury*

Particulate Matter \leq 100 Microns (PM)*

PM₁₀ - Particulate Matter \leq 10 Microns (PM₁₀) *

PM_{2.5} - Particulate Matter \leq 2.5 Microns (PM_{2.5})*

Carbon Monoxide (CAS# 630-08-0)

Oxides of Nitrogen (CAS# 11104-93-1)

Sulphur Dioxide (CAS# 7446-09-5)

*Per O.Reg. 455/09, "no single CAS numbers apply to these substances"

Statement of Intent

A statement of the Facility's intent to reduce its "creation" of the Toxic Substances has not been included as a part of this Master Document. The Toxic Substances cannot be "used" in the Facility process and therefore no statement with respect to intent to reduce use of the Toxic Substances is required.

The Toxic Substances have triggered reporting under the TRA and O. Reg. 455/09 due to two activities at the Facility which are defined as "creations" of the Toxic Substances under the TRA framework. The first activity that has been classified as a "creation" of the Toxic Substances is the generation by physical means of suspended particulate matter in various size fractions as dust during raw material processing and clinker grinding. This is subsequently released either as fugitive or stack emissions.

The second activity that has been classified as a "creation" of the Toxic Substances is the generation of particulate matter as a by-product of combustion of fuels during clinker production in the kiln. Due to the nature of the Toxic Substances, the substance can never be "used" in the Facility process.

The MOE has stated that the TRA is not intended to focus on "end of pipe" emissions as they don't necessarily have any bearing on the amount of a substance that is "used" or "created," however in this case, "end of pipe" emissions of suspended particulate matter is the determining factor of the Facility's TRA reporting status with respect to the Toxic Substances.

Despite the Facility's reporting status with respect to the Toxic Substances, the Facility feels that it has previously optimized its control of the "creation" and subsequent release of the Toxic Substances to the greatest extent that can reasonably be expected. This opinion is supported by the following two aspects:

1) **Compliance with Regulatory Requirements**

It is well documented that release of suspended particulate matter is an inherent by-product of cement grinding and that the activities leading to the release of suspended particulate matter are essential to the process of cement grinding. In recognition of this, the MOE has imposed various regulatory requirements related to the release of suspended particulate matter, which include:

- Ontario Regulation 419/05, under which a Facility must demonstrate compliance with substance-specific ground-level concentration limits of emitted substances, including suspended particulate matter in all forms that are reportable under the NPRI and TRA reporting programs.
- The requirement for any Facility that may discharge any contaminant to the atmosphere to apply for and obtain an Environmental Compliance Approval (ECA) for air which approves the facility's emissions and provides performance limits, documentation requirements and reporting requirements which a Facility must meet in order to maintain compliance with the ECA on an ongoing basis.
- The requirement for qualifying a facility to prepare and implement a "Fugitive Dust Best Management Practices Plan." This document outlines controls in place with respect to minimizing suspended particulate matter releases in the form fugitive dust at the facility, along with the decision making process that was used to identify fugitive dust emission sources and to develop appropriate best management practices for each type of source. A qualifying facility's Fugitive Dust Best Management Practices Plan must be approved by the MOE as a part of the ECA implementation process.
- The requirement to prepare and implement an Operations and Maintenance Manual which outlines operating procedures and maintenance programs for processes with what the MOE refers to as "Significant Environmental Impacts." This document assists Facility personnel in operating the Facility in a manner that minimizes the potential for environmental impacts and is also a part of the ECA implementation process.

Essroc currently meets and/or exceeds all of the above regulatory requirements which are designed to control the release of the Toxic Substances and minimize potential off-site impacts resulting from the release of the Toxic Substances.

2) **Measures Currently in Place to Minimize Releases of Suspended Particulate Matter**

As a result of satisfying all of the above noted regulatory requirements in addition to voluntary actions with respect to suspended particulate matter releases, Essroc actively implements a variety of controls to minimize suspended particulate matter releases from different parts of its process components. These controls include, but are not limited to, the following:

- The majority of point sources at the Facility are equipped with pollution control technologies, for example:
 - Kiln emissions are controlled by either electrostatic precipitators or fabric filters;
- Implementation of a Fugitive Dust Best Management Practices Plan to manage fugitive sources;
- Dust collectors and conveyor hoods are installed to control all conveyor transfer points, and hoods and baghouses control all drop points; and
- Application of water sprays to unpaved roads to minimize dust.

The Facility currently utilizes natural gas in the combustion equipment installed at the Facility. In the future, if the Facility upgrades its combustion equipment, they may look at alternative fuels for their economic viability and reduction in the creation and release of the Toxic Substances, however at this point in time due to regulatory limitations, natural gas is the only viable option for the Facility. In an effort to reduce fuel consumption and reduce the creation and release of the Toxic Substances, the Facility provides routine maintenance on the fuel burning equipment to ensure they are operating efficiently and are not burning excess fuel, which leads to unnecessary additional creation and release of the Toxic Substances. In addition, comfort heating through fuel combustion is the only practical source of comfort heat at this time.

Objectives of the Toxic Substance Reduction Plan

The objectives of this Toxics Reduction Plan (TRP) Master Document and subsequent individual TRPs are:

- provide the reader with information on measures currently in place at the Facility which control the “creation” and subsequent release of the Toxic Substances;
- provide the reader with an understanding of the nature of the Facility activity which the TRA has defined as a “creation” of the Toxic Substances; and
- document how the Facility has fulfilled the applicable requirements under the TRA and O. Reg. 455/09 with respect to the Toxic Substances covered.

Description of Why the Toxic Substance Is Used or Created

At the Facility, primary raw materials (i.e. limestone and shale) are quarried from an area adjacent to the cement plant, on the west side of Highway 49. The raw materials (primarily limestone) are processed in a crusher and then stored for use either within the raw mill or as a clinker additive. The raw mill produces fine ground material (raw mix/meal) which is fed to rotary kilns to produce clinker. Solid and gaseous fuels (e.g. coal, petroleum coke, natural gas) are received on-site and, in the case of solid fuel, stored then processed or milled to obtain the appropriate consistency for use.

Raw mix/meal is heated in the kilns to a temperature of about 1450°C using a mixture of coal and petroleum coke as the primary fuel. Natural gas is used during kiln start-up and periods where the solid fuel system is not available. The product from the kilns is called clinker and is discharged to a clinker cooler, which is a grate equipped with high pressure undergrate fans for cooling.

The final stage of manufacturing is cement grinding, where mineral components (such as gypsum and limestone) are blended and ground with the clinker to a fine powder form to produce various types of cement (portland cement and blended cement). The final products are stored in storage silos and are shipped off-site by boat. A small amount of cement is shipped by truck. The Facility also has a small packaging plant for bagged cement products.

The Toxic Substances have triggered reporting under the TRA and O. Reg. 455/09 due to two activities at the Facility which are defined as “creations” of the Toxic Substances under the TRA framework. The first activity that has been classified as a “creation” of the Toxic Substances is the generation by physical means of suspended particulate matter in various size fractions as dust during raw material processing and clinker grinding. This is subsequently released either as fugitive or stack emissions. The second activity that has been classified as a “creation” of the Toxic Substances is the generation of particulate matter as a by-product of combustion of fuels during clinker production in the kiln. Due to the nature of the Toxic Substances, the substance can never be “used” in the Facility process.

For the purpose of the required TRA Quantification, Accounting and Reporting exercise for the Toxic Substances, the calculated “release” values have been assumed to be equal to the amount “created” for each emission source, despite the fact that some of these releases are controlled releases. S.12(6) of O. Reg. 455/09 provides considerations for determining the “Best Available Methods” for tracking and quantifying the Toxic Substances. MOE guidance pertaining to this section of O. Reg. 455/09 states that the importance of selecting Best Available Methods is to provide the best decision making information when determining which toxics reduction options, if any, are worthwhile to implement. It should be noted that, given the Facility’s decision to not include in this Plan a statement of its intent to reduce the “creation” of the Toxic Substances (as supported by the information provided in the Statement of Intent section of the Plan), no decisions will be made with respect to toxics reduction based on the calculated “creation” values for the Toxic Substance. Taking this into consideration, the Facility used judgement based on relevance and effort required to obtain information and feels that it has gone to reasonable efforts in identifying and applying the Best Available Methods for quantifications in this case.

Rationale for Not Implementing Toxic Substance Reduction Options

As required by s.18(4) of O. Reg. 455/09 (as amended by s.9(3) of O. Reg. 214/11), a Plan must contain an explanation of why no toxic substance reduction options will be implemented.

Facility personnel have considered each of the seven categories for toxic substance reduction options, and, in light of the information provided in the Statement of Intent section of this Plan, the Facility feels that no toxic substance reduction options can be identified in any of the seven toxic substance reduction categories.

Therefore, the rationale for not implementing toxic substance reduction options is that no toxic substance reduction options could be identified.

Statement that the Plan Summary Accurately Reflects the Current Version of the Plan

As required by s.24(1)8 of O.Reg.455/09 this Plan Summary accurately reflects the current version of the Plan.

Planner License Number

As required by s.18(2) of O. Reg. 455/09 (as amended by s. 9(2) of O. Reg. 214/11), the Licensed Toxic Substance Reduction Planner responsible for providing Planner Recommendations on and certification of this Plan is as follows:

Jonathan Michael Fabro, B.A.Sc., M.E.B.

Golder Associates Ltd.

Toxic Substance Reduction Planner License Number TSRP0189.

Copies of the Certification

Certification statements are provided in the following page.

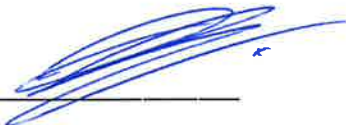
Toxic Substance Reduction Plans Certification by Highest Ranking Employee

As required by s.4(2) of the *Toxics Reduction Act* (TRA), Toxic Substance Reduction Plans must contain a certification, signed by the highest ranking employee at the Facility who has management responsibilities relating to the Facility.

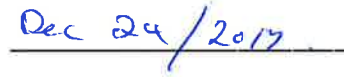
The following Certification Statement is being made under s.19(2) of Ontario Regulation (O.Reg.) 455/09 (as amended by s.11 of O.Reg.214/11) and satisfies the requirements of s.4(2) of the TRA for the Toxic Substance Plans that are assembled within this single document as of the date of this Certification Statement. Furthermore, the following Certification Statement is limited to the respective versions of the Plans which are dated as indicated in the Certification Statement:

As of December 24, 2013, I, Anthony Jones, certify that I have read the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the plans are factually accurate and comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under that Act.


- *Particulate Matter Version 1.0 (dated December 24, 2013)*
- *PM10 Version 1.0 (dated December 24, 2013)*
- *PM2.5 Version 1.0 (dated December 24, 2013)*
- *Carbon Monoxide Version 1.0 (dated December 24, 2013)*
- *Oxides of Nitrogen Version 1.0 (dated December 24, 2013)*
- *Sulphur Dioxide Version 1.0 (dated December 24, 2013)*



Signature



(December 24, 2013)



Anthony Jones
Regional Environmental Manager
Essroc Picton Cement Plant
1370 Highway 49 S
Picton, ON

December 24, 2013

Project No. 12-1151-0335

Anthony Jones
Essroc Italcementi Group

**LICENSED TOXIC SUBSTANCE REDUCTION PLANNER CERTIFICATION STATEMENT FOR PHASE II
TOXIC SUBSTANCE REDUCTION PLANS FOR ESSROC ITALCEMENTI GROUP – PICTON CEMENT
PLANT, PICTON, ONTARIO**

Dear Mr. Jones:

Golder Associates Ltd. (Golder) was retained by the Essroc Italcementi Group (Essroc) facility located at 1370 Highway 49 South, Picton, Ontario, (the Facility) to provide various services pertaining to Phase II Toxic Substance Reduction Plan preparation under the *Toxic Reduction Act* (TRA), including Toxic Substance Reduction Planner (Planner) certification of Phase II Toxic Substance Reduction Plans (the Plans).

The following Planner Certification Statement which is made under s.19.1(4) of Ontario Regulation (O.Reg.) 455/09 (as amended by s.11 of O.Reg.214/11) satisfies the Planner Certification requirements for the Plans that are assembled as a single document as of the date of this Certification Statement. Furthermore, the following Certification Statement is limited to the respective versions of the Plans which are dated as indicated in the Certification Statement:

As of December 24, 2013, I, J Michael Fabro certify that I am familiar with the processes at the Essroc Italcementi Group Picton Cement Plant at 1370 Highway 49 South in Picton, Ontario that uses the toxic substances referred to below, that I agree with the estimates referred to in subparagraphs 7 iii, iv and v of subsection 4 (1) of the Toxics Reduction Act, 2009 that are set out in the toxic substance reduction plans referred to below for the toxic substances and that the plans comply with that Act and Ontario Regulation 455/09 (General) made under that Act.

- *Particulate Matter Version 1.0*
- *PM10 Version 1.0*
- *PM2.5 Version 1.0*
- *Oxides of Nitrogen Version 1.0*
- *Carbon Monoxide Version 1.0*
- *Sulphur Dioxide Version 1.0*



December 24, 2013

J. Michael Fabro
Toxic Substance Reduction Planner
License No. TSRP0189

Date

JMF/FSC/ng

