Toxic Substance Reduction Plan Summaries

for 2015 Reporting Year

Novelis Inc. – Kingston Works

Basic Facility Information

Legal Name of Company	Novelis Inc.
Company Street Address/Mailing Address	Novelis Corporation (100% ownership) 3560 Lenox Road, Suite 2000, Atlanta, GA, United States 30326
Company Business Number	849087549
Facility Street Address/Mailing Address	1 Lappan's Lane, Kingston, Ontario, Canada K7L 4Z5
NPRI Identification Number	4197
Reg. 127 Reporting ID Number	Not applicable
Number of Full-Time Employees	250
NAICS code	(Two-digit):....31-33 (Four-digit): ...3313 (Six-digit):.....331317
Spatial Co-ordinates of Facility	(44.2498, -76.5153) – NAD83 Datum
Public Contact Person	Mr. Jacob Czyz, Plant Manager Telephone: (613) 541-7056 Facsimile: (613) 541-7003

Toxic Substances Present

List of Toxic Substances Present at Facility	CAS Registry Number
Manganese, and its compounds	Not applicable
White Mineral Oil	8042-47-5
Total Particulate Matter, PM	Not applicable
Particulate Matter <= 10 microns, PM10	Not applicable
Particulate Matter <= 2.5 microns, PM2.5	Not applicable
Sulphuric Acid	7664-93-9

Planner Information

This Toxic Substance Reduction (TSR) Plans were certified by Mr. Frankie Man, Ms. Danielle Arsenault, and Mr. Matthew Costigane of AECOM, each a licensed Toxic Substance Reduction Planner. Reduction option recommendations for each TSR Plan were also provided by each TSR Planner, in consultation with Novelis. The planners' license information is provided below.

Name	**Frankie Man**
Company	AECOM
License Number	TSRP0177
Plan(s) Certified	Manganese, and its compounds

Name	**Danielle Arsenault**
Company	AECOM
License Number	TSRP0289
Plan(s) Certified	White Mineral Oil, Total Particulate Matter, PM, Particulate Matter <= 10 microns, PM10, Particulate Matter <= 2.5 microns, PM2.5

Name	**Matthew Costigane**
Company	AECOM
License Number	TSRP0082
Plan(s) Certified	Sulphuric Acid

Manganese (and its compounds), CAS No. not available

Statement of Intent

As manganese is used to achieve specific performance properties in finished aluminum alloy metals, which are specified by customers and manufactured off-site, the Novelis Facility in Kingston is not in a position that would easily allow it to pursue reduction options. As such, the Facility does not intend to pursue reduction in the use or creation of manganese at the Facility in its alloys. However, Novelis is committed to reducing the generation of scrap in its converting process in an effort to reduce the quantity of rework required off-site by the aluminum alloy manufacturers.

Objectives of Plan and Toxic Reduction Target

In light of the Statement of Intent above, Novelis' objectives are to reduce the creation of scrap alloys and manganese-containing wastes to the greatest extent that circumstances permit, and to prioritize the treatment of waste in the order of reuse, recycling, and disposal.

Description of Manganese Use at Facility

The majority of manganese is contained within the coiled aluminum sheets delivered to and processed at the Facility. The desired thickness of the aluminum alloy sheets is obtained by pressing the alloy sheets through steel work rolls. The aluminium coil production process includes receiving, cold rolling, annealing/heat treatment, finishing, and delivery, including quality assurances and controls throughout.

Toxic Reduction Options

The Facility reviewed and considered potential options in each of the seven (7) reduction options categories. No technically feasible or economically viable options were identified.

Implementation Plan

Since no options were identified for implementation, a timeline was not prepared.

Plan Summary

This plan summary accurately reflects the contents of the Facility's Toxic Substance Reduction Plan that was prepared by AECOM for manganese and its compounds, dated November 16, 2012.

Manganese (and its compounds), CAS No. not available

2015 Toxic Substance Accounting on a Facility Wide Basis	
Amount of substance that entered the Facility as the substance itself or as a constituent of another substance:	>100 to 1000 tonnes
Amount of substance that was created at the Facility:	0 tonnes
Amount of substance that was contained in product:	>100 to 1000 tonnes

On-site releases from the Facility to: air, water, land, on-site and off-site disposal, off-site recycling (if applicable) can be viewed by searching for this facility at *http://www.ec.gc.ca/inrp-npri/*

White Mineral Oil, CAS No. 8042-47-5

Statement of Intent

Novelis strives to maintain compliance with municipal, provincial and federal law, as well as any corporate requirements with respect to the control of its environmental aspects. Novelis is committed to optimizing the usage of the white mineral oil to ensure that all releases via air and waste are minimized. White mineral oil is the main component in its lubricant which is essential to the production of its aluminum coil products. At this time, Novelis cannot implement any technically and economically feasible reduction options to reduce its use of white mineral oil.

Objectives of Plan and Toxic Reduction Target

Novelis will continue to strive to optimize the usage of white mineral oil through reclaiming the substance on-site and distilling it for further use. Efforts already implemented by Novelis reflect standard and best management industry practices, including implementation of ISO 14001 and waste management and reduction as part of the Facility's objective of continual improvement. No specific reduction target has been set for the toxic reduction of white mineral oil.

Description of White Mineral Oil Use at Facility

The white mineral oil is applied at the rolling operations and at the finishing line to provide lubrication and reduce friction.

Toxic Reduction Options

The Facility reviewed and considered potential options in each of the seven (7) reduction options categories. No technically feasible or economically viable options were identified.

Implementation Plan

Since no options were identified for implementation, a timeline was not prepared.

Plan Summary

This plan summary accurately reflects the contents of the Facility's Toxic Substance Reduction Plan that was prepared by AECOM for white mineral oil, dated December 6, 2013.

White Mineral Oil, CAS No. 8042-47-5

2015 Toxic Substance Accounting on a Facility Wide Basis	
Amount of substance that entered the Facility as the substance itself or as a constituent of another substance:	>100 to 1000 tonnes
Amount of substance that was created at the Facility:	0 tonnes
Amount of substance that was contained in product:	0 tonnes

On-site releases from the Facility to: air, water, land, on-site and off-site disposal, off-site recycling (if applicable) can be viewed by searching for this facility at *http://www.ec.gc.ca/inrp-npri/*

Particulate Matter <= 10 microns (PM10), CAS No. not available

Statement of Intent

Novelis strives to maintain compliance with municipal, provincial and federal law, as well as any corporate requirements with respect to the control of its environmental aspects. Novelis is committed to optimizing the usage of its equipment and fuel, and maintaining the equipment in excellent working order to ensure all releases of particulate matter less than 10 microns (PM10) to air are minimized. At this time, Novelis cannot implement any technically and economically feasible reduction options to reduce its creation of PM10.

Objectives of Plan and Toxic Reduction Target

Novelis will continue to strive to optimize the usage of equipment that releases PM10 through preventative maintenance and using the equipment only when needed. Efforts already implemented by Novelis reflect standard and best management industry practices, including implementation of ISO 14001 and waste management and reduction as part of the Facility's objective of continual improvement. No specific reduction target has been set for the toxic reduction of PM10.

Description of PM10 Creation at Facility

This substance is created by the operation of combustion equipment that utilizes natural gas and diesel fuels for the purposes of process heat, comfort heating and for emergency power. It is also emitted as an air release from the Cold Mill production operations and from the use of two cooling towers on-site. In addition, it is generated from maintenance welding activities.

Toxic Reduction Options

The Facility reviewed and considered potential options in each of the seven (7) reduction options categories. No technically feasible or economically viable options were identified.

Implementation Plan

Since no options were identified for implementation, a timeline was not prepared.

Plan Summary

This plan summary accurately reflects the contents of the Facility's Toxic Substance Reduction Plan that was prepared by AECOM for PM10, dated December 6, 2013.

Particulate Matter <= 10 microns (PM10), CAS No. not available

2015 Toxic Substance Accounting on a Facility Wide Basis	
Amount of substance that entered the Facility as the substance itself or as a constituent of another substance:	0 tonnes
Amount of substance that was created at the Facility:	>1 to 10 tonnes
Amount of substance that was contained in product:	0 tonnes

On-site releases from the Facility to: air, water, land, on-site and off-site disposal, off-site recycling (if applicable) can be viewed by searching for this facility at *http://www.ec.gc.ca/inrp-npri/*

Particulate Matter <= 2.5 microns (PM2.5), CAS No. not available

Statement of Intent

Novelis strives to maintain compliance with municipal, provincial and federal law, as well as any corporate requirements with respect to the control of its environmental aspects. Novelis is committed to optimizing the usage of its equipment and fuel, and maintaining the equipment in excellent working order to ensure all releases of particulate matter less than 2.5 microns (PM2.5) to air are minimized. At this time, Novelis cannot implement any technically and economically feasible reduction options to reduce its creation of PM2.5.

Objectives of Plan and Toxic Reduction Target

Novelis will continue to strive to optimize the usage of equipment that releases PM2.5 through preventative maintenance and using the equipment only when needed. Efforts already implemented by Novelis reflect standard and best management industry practices, including implementation of ISO 14001 and waste management and reduction as part of the Facility's objective of continual improvement. No specific reduction target has been set for the toxic reduction of PM2.5.

Description of PM2.5 Creation at Facility

This substance is mainly created by the operation of combustion equipment that utilizes natural gas and diesel fuels for the purposes of process heat, comfort heating and for emergency power. It is also released as an air emission from the Cold Mill operations.

Toxic Reduction Options

The Facility reviewed and considered potential options in each of the seven (7) reduction options categories. No technically feasible or economically viable options were identified.

Implementation Plan

Since no options were identified for implementation, a timeline was not prepared.

Plan Summary

This plan summary accurately reflects the contents of the Facility's Toxic Substance Reduction Plan that was prepared by AECOM for PM2.5, dated December 6, 2013.

Particulate Matter <= 2.5 microns (PM2.5), CAS No. not available

2015 Toxic Substance Accounting on a Facility Wide Basis	
Amount of substance that entered the Facility as the substance itself or as a constituent of another substance:	0 tonnes
Amount of substance that was created at the Facility:	0 > 1 tonne
Amount of substance that was contained in product:	0 tonnes

On-site releases from the Facility to: air, water, land, on-site and off-site disposal, off-site recycling (if applicable) can be viewed by searching for this facility at *http://www.ec.gc.ca/inrp-npri/*

Sulphuric Acid, CAS No. 7664-93-9

Statement of Intent

Novelis strives to maintain compliance with local, provincial and federal law, as well as any corporate requirements with respect to the control of its environmental aspects. Novelis is committed to optimizing the usage of sulphuric acid to ensure that there are no releases and that the entire quantity is destroyed through neutralization. Sulphuric acid is used as a cleaning agent at the Finishing Line operations. It is found in the following products:

- Kleen Sac 4583
- Kleen Sac 4551

Sulphuric acid is fully neutralized (destroyed) through pH adjustment of process water before leaving the treatment facility, entering the natural environment. At this time, Novelis cannot implement any technically and economically feasible reduction options to reduce its use of sulphuric acid.

Objectives of Plan and Toxic Reduction Target

Novelis will continue to strive to optimize the usage of sulphuric acid through accurate dosing/metering. Efforts already implemented by Novelis reflect standard and best management industry practices, including implementation of ISO 14001 and waste management and reduction as part of the Facility's objective of continual improvement.

Description of Sulphuric Acid Destruction at Facility

This substance is fully neutralized (destroyed) through pH adjustment of process water before leaving the treatment facility.

Toxic Reduction Options

The Facility reviewed and considered potential options in each of the seven (7) reduction options categories. No technically feasible or economically viable options were identified.

Implementation Plan

Since no options were identified for implementation, a timeline was not prepared.

Plan Summary

This plan summary accurately reflects the contents of the Facility's Toxic Substance Reduction Plan that was prepared by AECOM for Sulphuric Acid, dated July 10, 2015.

Sulphuric Acid, CAS No. 7664-93-9

2015 Toxic Substance Accounting on a Facility Wide Basis	
Amount of substance that entered the Facility as the substance itself or as a constituent of another substance:	>10 to 100 tonnes
Amount of substance that was destroyed at the Facility:	>10 to 100 tonnes
Amount of substance that was contained in product:	0 tonnes

On-site releases from the Facility to: air, water, land, on-site and off-site disposal, off-site recycling (if applicable) can be viewed by searching for this facility at *http://www.ec.gc.ca/inrp-npri/*