

TEMBEC - KAPUSKASING OPERATIONS

1 GOVERNMENT ROAD, KAPUSKASING, ONTARIO P5N 2Y2

TOXICS REDUCTION ACT TOXIC SUBSTANCE REDUCTION PLAN SUMMARIES 2013

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NOVEMBER 15, 2013

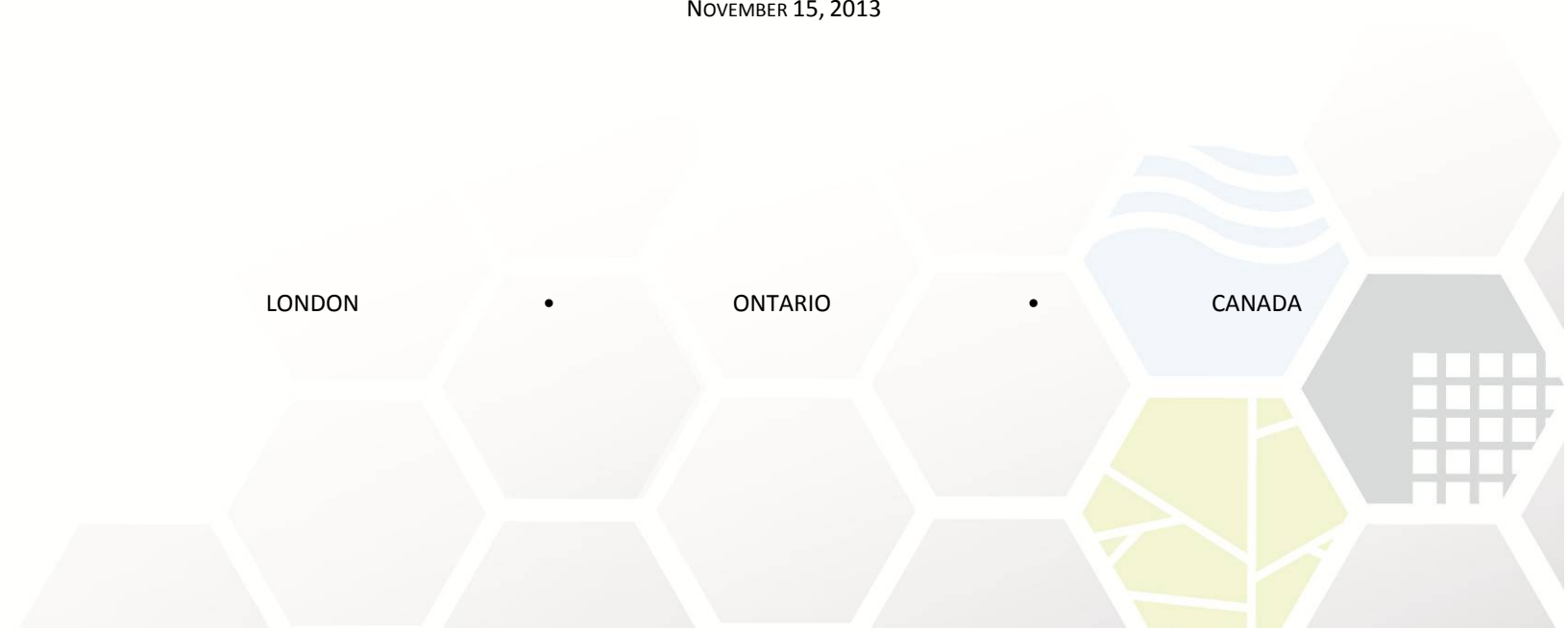
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1. PLAN SUMMARY –ALPHA-PINENE

Name and CASRN of Substance	Alpha-Pinene	80-56-8
Substances for which other plans have been prepared	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA – 03
	Carbon Monoxide	630-08-0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

1.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

1.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

Tembec shares with the community important responsibilities towards the environment in



which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the use and release of Alpha-Pinene in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

1.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of Alpha-Pinene where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Alpha-Pinene is naturally in the wood materials used by the facility and that most current research seeks to abate these emissions using end of pipe controls.

1.4 Description of Substance

Alpha-Pinene and precursors are naturally occurring in the wood chips used by the facility to produce paper and the wood waste used to produce steam in the facility's three wood waste fibre combustors. Alpha-Pinene is also created as a by-product through the drying of green lumber. Evaporation of moisture containing Alpha-Pinene and precursors in the green lumber results in the release of Alpha-Pinene to the atmosphere.

1.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of Alpha-Pinene (and its compounds):

- Process Modification – green lumber sorting based on moisture content to prevent over and under drying of lumber in the wood kilns.
- Process Modification – low consistency pulp refiners.
- Improved Operating Practices – monitoring of lumber moisture content to prevent over-drying of the lumber in the wood kilns.

Alpha-Pinene reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Alpha-Pinene

CASRN: 80-56-8

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	8.306	0	8.306	0	0	0	0	0
Estimated reduced amount	0	7.525	0	7.525	0	0	0	0	0
Reduction	0	0.781	0	0.781	0	0	0	0	0
% Reduction	NA	9.4%	NA	9.4%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

1.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Alpha-Pinene, prepared on behalf of Tembec, dated November 15, 2013.

1.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

2. PLAN SUMMARY – AMMONIA (TOTAL)

Name and CASRN of Substance	Ammonia (total)	NA-16
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA – 03
	Carbon Monoxide	630-08-0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

2.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

2.2 Toxic Reduction Policy Statement of Intent

Tembec’s corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the use and release of Ammonia (total) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

2.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of Ammonia (total) where technically and economically feasible. Unfortunately, there are no reduction options that have been identified as being both technically and economically feasible for this substance. However, we will continue to monitor technological advancements and ensure the sound management and use of this substance that minimizes significant adverse impacts on human health and the environment.

2.4 Description of Substance

Ammonia (total) is used by the facility as aqua Ammonia to provide biological nutrients the effluent treatment operations. During this process Ammonia is released to the atmosphere as well as the treated effluent discharged as waste water. Ammonia is disposed of off-site as wastewater treatment sludges. The majority of the Ammonia used is consumed by micro-organisms prior to being discharged as effluent waste water.

2.5 Toxic Substance Reduction Option to be Implemented

There are currently no reduction options for this substance that have been determined to be both technically and economically feasible. However, the facility will continue to investigate reduction options as they arise as part of their overall sustainability programs.

2.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Ammonia (total), prepared on behalf of Tembec, dated November 15, 2013.

2.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

3. PLAN SUMMARY – BETA-PINENE

Name and CASRN of Substance	Beta-Pinene	127-91-3
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA – 03
	Carbon Monoxide	630-08-0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

3.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

3.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the use and release of Beta-Pinene in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

3.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of Beta-Pinene where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Beta-Pinene are naturally in the wood materials used by the facility and that most current research seeks to abate these emissions using end of pipe controls.

3.4 Description of Substance

Beta-Pinene and precursors are naturally occurring in the wood chips used by the facility to produce paper and the wood waste used to produce steam in the facility's three wood waste fibre combustors. Beta-Pinene is also created as a by-product through the drying of green lumber. Evaporation of moisture containing Beta-Pinene and precursors in the green lumber results in the release of Beta-Pinene to the atmosphere.

3.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of Beta-Pinene:

- Process Modification – green lumber sorting based on moisture content to prevent over and under drying of lumber in the wood kilns.
- Process Modification – low consistency pulp refiners.
- Improved Operating Practices – monitoring of lumber moisture content to prevent over-drying of the lumber in the wood kilns.

Beta-Pinene reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Beta-Pinene

CASRN: 127-91-3

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	5.503	0	5.503	0	0	0	0	0
Estimated reduced amount	0	4.962	0	4.962	0	0	0	0	0
Reduction	0	0.541	0	0.541	0	0	0	0	0
% Reduction	NA	9.8%	NA	9.8%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

3.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Beta-Pinene, prepared on behalf of Tembec, dated November 15, 2013.

3.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

4. PLAN SUMMARY – BETA-PHELLANDRENE

Name and CASRN of Substance	Beta-Phellandrene	555-10-2
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Cadmium (and its compounds)	NA – 03
	Carbon Monoxide	630-08-0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

4.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

4.2 Toxic Reduction Policy Statement of Intent

Tembec’s corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Beta-Phellandrene in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

4.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of Beta-Phellandrene where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Beta-Phellandrene is naturally occurring in the wood materials used by the facility and that most current research seeks to abate these emissions using end of pipe controls.

4.4 Description of Substance

Beta-Phellandrene is created as a by-product through the drying of green lumber. Evaporation of moisture containing Beta-Phellandrene and Beta-Phellandrene precursors in the green lumber results in the release of Beta-Phellandrene to the atmosphere. Creation of Beta-Phellandrene at this stage is directly related to the quantity of kiln dried lumber produced annually.

4.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of Beta-Phellandrene:

- Process Modification – green lumber sorting based on moisture content to prevent over and under drying of lumber in the wood kilns.
- Improved Operating Practices – monitoring of lumber moisture content to prevent over-drying of the lumber in the wood kilns.

Beta-Phellandrene reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Beta-Phellandrene

CASRN: 555-10-2

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	5.156	0	5.156	0	0	0	0	0
Estimated reduced amount	0	0.516	0	0.516	0	0	0	0	0
Reduction	0	4.640	0	4.640	0	0	0	0	0
% Reduction	NA	10%	NA	10%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

4.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Beta-Phellandrene, prepared on behalf of Tembec, dated November 15, 2013.

4.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

5. PLAN SUMMARY – CARBON MONOXIDE

Name and CASRN of Substance	Carbon Monoxide	630-08-0
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA - 03
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

5.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

5.2 Toxic Reduction Policy Statement of Intent

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In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Carbon Monoxide in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

5.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of Carbon Monoxide (CO) where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Carbon Monoxide is generated through the combustion of fuel sources at the facility and that most current research seeks to abate these emissions using end of pipe controls.

5.4 Description of Substance

Carbon Monoxide is created by the combustion of wood waste (planer shavings, chips, sawdust, bark and sludge) in the wood waste boiler and also through the combustion of natural gas at the facility. The amount of Carbon Monoxide released by the combustion of wood waste used by the wood boiler is calculated based on the amount of waste burned by the boiler and emission factors published by NCASI (2007) for wood waste combustion. The estimate of Carbon Monoxide released by the natural gas combustion was based on the amount of natural gas burned by the facility and emission factors published by NCASI (2007) for natural gas combustion.

5.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of Carbon Monoxide:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

Carbon Monoxide reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Carbon Monoxide

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	806.788	NA	806.788	NA	NA	NA	NA	NA
Estimated reduced amount	0	760.793	NA	760.793	NA	NA	NA	NA	NA
Reduction	0	45.995	NA	45.995	NA	NA	NA	NA	NA
% Reduction	NA	5.7%	NA	5.7%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

5.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Carbon Monoxide, prepared on behalf of Tembec, dated November 15, 2013.

5.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

6. PLAN SUMMARY – D-LIMONENE

Name and CASRN of Substance	D-Limonene	5989-27-5
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08--0
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO2)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

6.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

6.2 Toxic Reduction Policy Statement of Intent

Tembec’s corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of D-Limonene in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

6.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of D-Limonene where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that D-Limonene and its precursors are naturally in the wood materials used by the facility and that most current research seeks to abate these emissions using end of pipe controls.

6.4 Description of Substance

D-Limonene and precursors are naturally occurring in the wood chips used by the facility to produce paper and the wood waste used to produce steam in the facility's three wood waste fibre combustors.

6.5 Toxic Substance Reduction Option to be Implemented

The following option has been identified for implementation to reduce the use and release of D-Limonene:

- Process Modification – low consistency pulp refiners.

D-Limonene reductions due to implementing the option above are as follows:

Company Name: Tembec

Substance: D-Limonene

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	0	0	1.452	0	0	0	0	0
Estimated reduced amount	0	0	0	1.318	0	0	0	0	0
Reduction	0	0	0	0.134	0	0	0	0	0
% Reduction	NA	NA	NA	9.2%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

6.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for D-Limonene, prepared on behalf of Tembec, dated November 15, 2013.

6.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

7. PLAN SUMMARY – ETHYL ALCOHOL

Name and CASRN of Substance	Ethyl Alcohol	64-17-5
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonen	5989-27-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	67-63-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

7.1 Basic Facility Information

Basic facility information has been included in Section 7 of this document.

7.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Ethyl Alcohol in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

7.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of Ethyl Alcohol where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Ethyl Alcohol and its precursors are naturally in the wood materials used by the facility and that most current research seeks to abate these emissions using end of pipe controls.

7.4 Description of Substance

Ethyl Alcohol and precursors are naturally occurring in the wood chips used by the facility to produce paper and the wood waste used to produce steam in the facility's three wood waste fibre combustors. Ethyl Alcohol is also created as a by-product through the drying of green lumber. Evaporation of moisture containing Ethyl Alcohol and precursors in the green lumber results in the release of this substance to the atmosphere.

7.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the use and release of Ethyl Alcohol:

- Process Modification – green lumber sorting based on moisture content to prevent over and under drying of lumber in the wood kilns.
- Process Modification – replacement of steam wood kilns with natural gas fired kilns.
- Improved Operating Practices – monitoring of lumber moisture content to prevent over-drying of the lumber in the wood kilns.

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

Ethyl Alcohol reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Ethyl Alcohol

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	1.222	0	1.222	0	0	0	23.852	0
Estimated reduced amount	0	1.105	0	1.105	0	0	0	22.426	0
Reduction	0	0.117	0	0.117	0	0	0	1.428	0
% Reduction	NA	9.6%	NA	9.6%	NA	NA	NA	6%	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

7.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Ethyl Alcohol, prepared on behalf of Tembec, dated November 15, 2013.

7.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

8. PLAN SUMMARY – ISOPROPYL ALCOHOL

Name and CASRN of Substance	Isopropyl Alcohol	67-63-0
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

8.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

8.2 Toxic Reduction Policy Statement of Intent

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In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Isopropyl Alcohol in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

8.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation of Isopropyl Alcohol where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Isopropyl Alcohol and its precursors are naturally in the wood materials used by the facility and that most current research seeks to abate Isopropyl Alcohol and VOC emissions using end of pipe controls.

8.4 Description of Substance

Isopropyl Alcohol is created as a by-product through the storage of wood waste in piles and the combustion of wood waste and wastewater treatment sludges in the facility's three wood fibre waste combustors. Evaporation of moisture containing Isopropyl Alcohol and Isopropyl Alcohol precursors in the wood chips and thermal degradation of cellulose in the wood waste results in the release of Isopropyl Alcohol to the atmosphere. Creation of Isopropyl Alcohol at this stage is directly related to the quantity of wood waste burned in the three combustors annually.

8.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of Isopropyl Alcohol:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

- Improved Operating Practices – revised energy management program.

Isopropyl Alcohol reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Isopropyl Alcohol

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	3.969	0	3.969	0	0	0	0	0
Estimated reduced amount	0	3.732	0	3.732	0	0	0	0	0
Reduction	0	0.237	0	0.237	0	0	0	0	0
% Reduction	NA	6%	NA	6%	NA	NA	NA	NA	NA

Note: All values are presented in kilograms (kg) per year unless noted.

8.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Isopropyl Alcohol, prepared on behalf of Tembec, dated November 15, 2013.

8.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

9. PLAN SUMMARY – METHYL ISOBUTYL KETONE

Name and CASRN of Substance	Methyl Isobutyl Ketone	108-10-1
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

9.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

9.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the creation and release of Methyl Isobutyl Ketone (MIBK) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

9.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation of MIBK where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that MIBK and its precursors are naturally in the wood materials used by the facility and that most current research seeks to abate MIBK and VOC emissions using end of pipe controls.

9.4 Description of Substance

MIBK and precursors are naturally occurring in the wood chips used by the facility to produce paper and the wood waste used to produce steam in the facility's three wood waste fibre combustors. MIBK is also created as a by-product through the drying of green lumber. Evaporation of moisture containing MIBK and precursors in the green lumber results in the release of Formaldehyde to the atmosphere.

9.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of MIBK:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Process Modification – low consistency pulp refiners.
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

- Improved Operating Practices – revised energy management program.

MIBK reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Methyl Isobutyl Ketone

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	1.244	0	1.244	0	0	0	0	0
Estimated reduced amount	0	1.139	0	1.139	0	0	0	0	0
Reduction	0	0.105	0	0.105	0	0	0	0	0
% Reduction	NA	8.5%	NA	8.5%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

9.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for MIBK, prepared on behalf of Tembec, dated November 15, 2013.

9.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

10. PLAN SUMMARY – OXIDES OF NITROGEN (NO₂)

Name and CASRN of Substance	Oxides of Nitrogen (NO ₂)	11104-93-1
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08-0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

10.1 Basic Facility Information

Basic facility information has been included in Section 7 of this document.

10.2 Toxic Reduction Policy Statement of Intent

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In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Oxides of Nitrogen (NO_x) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

10.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of NO_x where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that NO_x is generated through the combustion of fuel sources at the facility and that most current research seeks to abate these emissions using end of pipe controls.

10.4 Description of Substance

Oxides of Nitrogen are created by the combustion of wood waste (planer shavings, chips, sawdust, bark and sludge) in the wood waste boiler and also through the combustion of natural gas at the facility. The amount of NO_x released by the combustion of wood waste used by the wood boiler is calculated based on the amount of waste burned by the boiler and emission factors published by NCASI (2007) for wood waste combustion. The estimate of NO_x released by the natural gas combustion was based on the amount of natural gas burned by the facility and emission factors published by NCASI (2007) for natural gas combustion.

10.5 Toxic Substance Reduction Option to be Implemented

The following option has been identified for implementation to reduce the use and release of NO_x:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

NO_x reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Oxides of Nitrogen (NO_x)

CASRN: 11104-93-1

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	354.501	NA	354.501	NA	NA	NA	NA	NA
Estimated reduced amount	0	337.098	NA	337.098	NA	NA	NA	NA	NA
Reduction	0	17.403	NA	17.403	NA	NA	NA	NA	NA
% Reduction	NA	4.9%	NA	4.9%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

10.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for NO_x, prepared on behalf of Tembec, dated November 15, 2013.

10.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

11. PLAN SUMMARY – PHOSPHORUS (TOTAL)

Name and CASRN of Substance	Phosphorus (total)	NA-22
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08-0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

11.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

11.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Phosphorus (total) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

11.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of Phosphorus where technically and economically feasible. Unfortunately, there are no reduction options that have been identified as being both technically and economically feasible for this substance. However, we will continue to monitor technological advancements and ensure the sound management and use of this substance that minimizes significant adverse impacts on human health and the environment.

11.4 Description of Substance

Phosphorus is used in the form of Phosphoric Acid to provide additional biological nutrients for bacterial growth to treat the wastewater effluent generated by the facility. The estimate of Phosphorus released by the facility is based on the amount of treated effluent released by the facility and the average Phosphorus concentration in the effluent as tested by Tembec personnel.

11.5 Toxic Substance Reduction Option to be Implemented

There are currently no reduction options for this substance that have been determined to be both technically and economically feasible. However, the facility will continue to investigate reduction options as they arise as part of their overall sustainability programs.

11.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Phosphorus (total), prepared on behalf of Tembec, dated November 15, 2013.

11.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

12. PLAN SUMMARY – PARTICULATE MATTER ≤10 MICRONS

Name and CASRN of Substance	Particulate Matter ≤10 Microns	NA-M09
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

12.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

12.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

Tembec shares with the community important responsibilities towards the environment in



which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the creation and release of Particulate Matter ≤ 10 Microns (PM_{10}) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

12.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of PM_{10} where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that PM_{10} is generated through combustion sources and fugitive dust emissions from roadways at the site and that most current research seeks to PM_{10} emissions using end of pipe controls.

12.4 Description of Substance

PM_{10} is created by the combustion of wood waste and sludges in the wood waste boiler, the combustion of natural gas in the facility's boiler and by vehicular traffic on the unpaved roads at the facility. PM_{10} is also created through the production of dimensional lumber and is released through the Sawmill baghouses.

12.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the use and release of PM_{10} :

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

PM₁₀ reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Particulate Matter ≤10 Microns

CASRN: NA-M09

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	81.065	NA	81.065	NA	NA	NA	NA	NA
Estimated reduced amount	0	78.041	NA	78.041	NA	NA	NA	NA	NA
Reduction	0	3.024	NA	3.024	NA	NA	NA	NA	NA
% Reduction	NA	3.7%	NA	3.7%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

12.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for PM₁₀, prepared on behalf of Tembec, dated November 15, 2013.

12.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

13. PLAN SUMMARY – PARTICULATE MATTER ≤2.5 MICRONS

Name and CASRN of Substance	Particulate Matter ≤2.5 Microns	NA-M10
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

13.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

13.2 Toxic Reduction Policy Statement of Intent

Tembec’s corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

Tembec shares with the community important responsibilities towards the environment in



which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the use and release of Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

13.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of $PM_{2.5}$ where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that $PM_{2.5}$ is generated through combustion sources and fugitive dust emissions from roadways at the Site. The most current research seeks to $PM_{2.5}$ emissions using end of pipe controls.

13.4 Description of Substance

$PM_{2.5}$ is created by the combustion of wood waste and sludges in the wood waste boiler, the combustion of natural gas in the facility's boiler and by vehicular traffic on the unpaved roads at the facility. $PM_{2.5}$ is also created through the production of dimensional lumber and is released through the Sawmill baghouses.

13.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the use and release of $PM_{2.5}$:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

PM_{2.5} reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Particulate Matter ≤2.5 Microns

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	0	NA	38.307	NA	NA	NA	NA	NA
Estimated reduced amount	0	0	NA	36.252	NA	NA	NA	NA	NA
Reduction	0	0	NA	2.055	NA	NA	NA	NA	NA
% Reduction	NA	NA	NA	5.4%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

13.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for PM_{2.5}, prepared on behalf of Tembec, dated November 15, 2013.

13.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

14. PLAN SUMMARY – PARTICULATE MATTER (TPM)

Name and CASRN of Substance	Particulate Matter (TPM)	NA-M08
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Selenium	NA-12
	Sulphuric Acid	7664-93-9
Sulphur Dioxide	7446-09-5	

14.1 Basic Facility Information

Basic facility information has been included in Section 7 of this document.

14.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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Wherever feasible, Tembec will reduce the use and release of Total Particulate Matter (TPM) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

14.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of TPM where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that TPM is generated through combustion sources and fugitive dust emissions from roadways at the Site. The most current research seeks to TPM emissions using end of pipe controls.

14.4 Description of Substance

TPM is created by the combustion of wood waste and sludges in the wood waste boiler, the combustion of natural gas in the facility's boiler and by vehicular traffic on the unpaved roads at the facility. TPM is also created through the production of dimensional lumber and is released through the Sawmill baghouses.

14.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the use and release of Particulate Matter (TPM):

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

- Improved Operating Practices – revised energy management program.

Particulate Matter (TPM) reductions due to implementing the options above are as follows:

Company Name: Tembec

Substance: Particulate Matter (TPM)

CASRN: Not applicable

Reduction Option: Process Modification and Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	0	NA	172.074	NA	NA	NA	NA	NA
Estimated reduced amount	0	0	NA	167.862	NA	NA	NA	NA	NA
Reduction	0	0	NA	4.212	NA	NA	NA	NA	NA
% Reduction	NA	NA	NA	2.4%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

14.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for TPM, prepared on behalf of Tembec, dated November 15, 2013.

14.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

15. PLAN SUMMARY – SELENIUM

Name and CASRN of Substance	Selenium	NA-12
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Oxides of Nitrogen (NO2)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
Sulphuric Acid	7664-93-9	
Sulphur Dioxide	7446-09-5	

15.1 Basic Facility Information

Basic facility information has been included in Section 17 of this document.

15.2 Toxic Reduction Policy Statement of Intent

Tembec’s corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

Tembec shares with the community important responsibilities towards the environment in which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the use and release of Selenium (and its compounds) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

15.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the use and release of Selenium (and its compounds) where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that Selenium (and its compounds) are naturally in the wood materials used by the facility and that most current research seeks to abate these emissions using end of pipe controls.

15.4 Description of Substance

Selenium is naturally occurring in the wood chips used by the facility to produce paper and the wood waste used to produce steam in the facility's three wood waste fibre combustors.

15.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the use and release of Selenium:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

Selenium reductions due to implementing the options above are as follows:

Company Name: Tembec
 Substance: Selenium
 CASRN: NA-12
 Reduction Option: Process Modifications and
 Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	158.968	0	114.266	4.280	15.140	0	0	1.340	0
Estimated reduced amount	157.78	0	114.266	4.022	14.231	0	0	1.259	0
Reduction	1.245	0	0	0.258	0.909	0	0	0.081	0
% Reduction	0.8%	NA	0%	6%	6%	NA	NA	6%	NA

Note: All values are presented in kilograms (kg) per year unless noted.

15.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Selenium, prepared on behalf of Tembec, dated November 15, 2013.

15.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

16. PLAN SUMMARY – SULPHUR DIOXIDE

Name and CASRN of Substance	Sulphur Dioxide	7446-09-5
Substances for which other plans have been prepared	Alpha-Pinene	80-56-8
	Ammonia (total)	NA-16
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA-03
	Carbon Monoxide	630-08—0
	D-Limonene	5989-27-5
	Ethyl Alcohol	64-17-5
	Formaldehyde	50-00-0
	Isopropyl Alcohol	64-63-0
	Lead (and its compounds)	NA-08
	Manganese	NA-09
	Methanol	67-56-1
	Methyl Isobutyl Ketone	108-10-
	Oxides of Nitrogen (NO ₂)	11104-93-1
	Phosphorus (total)	NA-22
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08
	Selenium	NA-12
Sulphuric Acid	7664-93-9	

16.1 Basic Facility Information

Basic facility information is included in Section 17 of this document.

16.2 Toxic Reduction Policy Statement of Intent

Tembec's corporate vision is to be an industry leader in value creation by being the best steward of resources: human, capital and forest.

In 2000, Tembec was the first major Canadian forest products company to implement across all of its operations an Environmental Management System (EMS) that complies with the ISO 14001 standard. Our EMS provides a rigorous management structure that is applied in all Tembec manufacturing and forest operations under our control. The EMS is an internationally recognized set of environmental best management practices that guides all activities that have a relationship with the environment. The EMS facilitates the achievement of important sustainability objectives and programs, such as maximizing environmental performance in manufacturing, and maintaining Forest Stewardship Council® (FSC®) certification in all forestry operations.

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which we live and work. The Corporation supports the responsible stewardship of resources, including forest, fish and aquatic habitat, wildlife, air, land and water. Responsible stewardship, combined with a continual improvement process, makes possible sustained economic development and an improved quality of life. In this spirit, Tembec commits to implementing and maintaining an effective environmental management program that will govern its attitude and action in environmental matters and will benefit the environment, the community, the shareholders, employees and customers.

Wherever feasible, Tembec will reduce the use and release of Sulphur Dioxide (SO₂) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Tembec, and we will continue to monitor technological advancements to ensure that options that are both technologically and financially viable are implemented at our facility.

16.3 Reduction Objectives

The reduction of toxic substance use, creation and releases is a priority for Tembec forming part of our sustainability programs and EMS. Our goal is to reduce the creation and release of SO₂ where technically and economically feasible by the timetable noted in the plan. We will achieve these reductions through procedure improvements and employee education and training. It is important to note that SO₂ is created by the combustion activities of the Facility and that most current research seeks to abate these emissions using end of pipe controls.

16.4 Description of Substance

SO₂ is created by the combustion of wood waste (planer shavings and chips, sawdust, bark and sludge) in the wood waste boiler and by combustion of natural gas in the gas boiler at the facility. SO₂ is also created as a by-product of the pulp bleaching stage.

16.5 Toxic Substance Reduction Option to be Implemented

The following options have been identified for implementation to reduce the creation and release of SO₂:

- Process Modification – replacement of steam wood kilns with natural gas fired kilns
- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.
- Improved Operating Practices – revised energy management program.

Sulphur Dioxide reductions due to implementing the option above are as follows:

Company Name: Tembec
 Substance: Sulphur Dioxide
 CASRN: 7664-93-9
 Reduction Option: Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	44.937	NA	44.937	NA	NA	NA	NA	NA
Estimated reduced amount	0	42.921	NA	42.921	NA	NA	NA	NA	NA
Reduction	0	2.016	NA	2.016	NA	NA	NA	NA	NA
% Reduction	NA	4.5%	NA	4.5%	NA	NA	NA	NA	NA

Note: All values are presented in metric tonnes (Mg) per year unless noted.

16.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for SO₂, prepared on behalf of Tembec, dated November 15, 2013.

16.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 18 of this document.

17. BASIC FACILITY INFORMATION

Facility Identification and Site Address		
Company Name	Tembec	
Facility Name	Tembec Kapuskasing	
Facility Address	Physical Address:	Mailing Address
	1 Government Road Kapuskasing ON P5N 2Y2	1 Government Road P.O. Box 100 Kapuskasing ON P5N 2Y2
Spatial Coordinates (UTM)	396647.6 (Easting)	5473830 (Northing)
Datum	WGS84	
Number of Employees	480 (Full time equivalents)	
NPRI ID	002173	
ON MOE ID	5625	
Parent Company Information		
Parent Company Name & Address	Tembec 10, chemin Gatineau Témiscaming, PQ J0Z 3R0	
Percent Ownership	100%	
Primary North American Industrial Classification System Code (NAICS)		
2 Digit NAICS Code	31-33 Manufacturing	
4 Digit NAICS Code	3221 Pulp, Paper and Paperboard Manufacturing	
6 Digit NAICS Code	322122 Newsprint Mills	
Company Contact Information		
Facility Public Contact	Linda Coates, VP Communications and Public Affairs	Contact Address
	Linda.Coates@tembec.com	Tembec 405 The West Mall, Suite 800 Toronto, ON M9C 5J1
	Phone: 416-775-2819	
	Fax: 416 621-3119	

18. COPY OF PLAN CERTIFICATION

Certification by the Highest Ranking Employee

As of December 16, 2013, I, Andre Ouimette, 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.

Toxic Substances:

Alpha-Pinene	Methyl Isobutyl Ketone
Ammonia (total)	Oxides of Nitrogen (as NO ₂)
Beta-Pinene	Phosphorus (total)
Beta-Phellandrene	Particulate Matter (10)
Carbon Monoxide	Particulate Matter (2.5)
D-Limonene	Particulate Matter (TPM)
Ethyl Alcohol	Selenium
Isopropyl Alcohol	Sulphur Dioxide



Andre Ouimette
General Manager
Tembec Kapuskasing Operations

Certification by Licensed Planner

As of December 16, 2013, I, Tim Logan certify that I am familiar with the processes at Tembec's Kapuskasing facility that use or create 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 plans dated November 15, 2013 and that the plans comply with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substances:

Alpha-Pinene	Methyl Isobutyl Ketone
Ammonia (total)	Oxides of Nitrogen (as NO ₂)
Beta-Pinene	Phosphorus (total)
Beta-Phellandrene	Particulate Matter (10)
Carbon Monoxide	Particulate Matter (2.5)
D-Limonene	Particulate Matter (TPM)
Ethyl Alcohol	Selenium
Isopropyl Alcohol	Sulphur Dioxide



Tim Logan (License No. TSRP0003)
President
O2E Inc. Environmental Consultants