

TEMBEC - CHAPLEAU OPERATIONS

175 PLANER ROAD, CHAPLEAU, ONTARIO P0M 1K0

TOXICS REDUCTION ACT TOXIC SUBSTANCE REDUCTION PLAN SUMMARIES 2013

REPORT PREPARED BY:
O2E INC.

REPORT PREPARED FOR:
LINDSAY CARSON
TEMBEC

NOVEMBER 20, 2013

LONDON

•

ONTARIO

•

CANADA

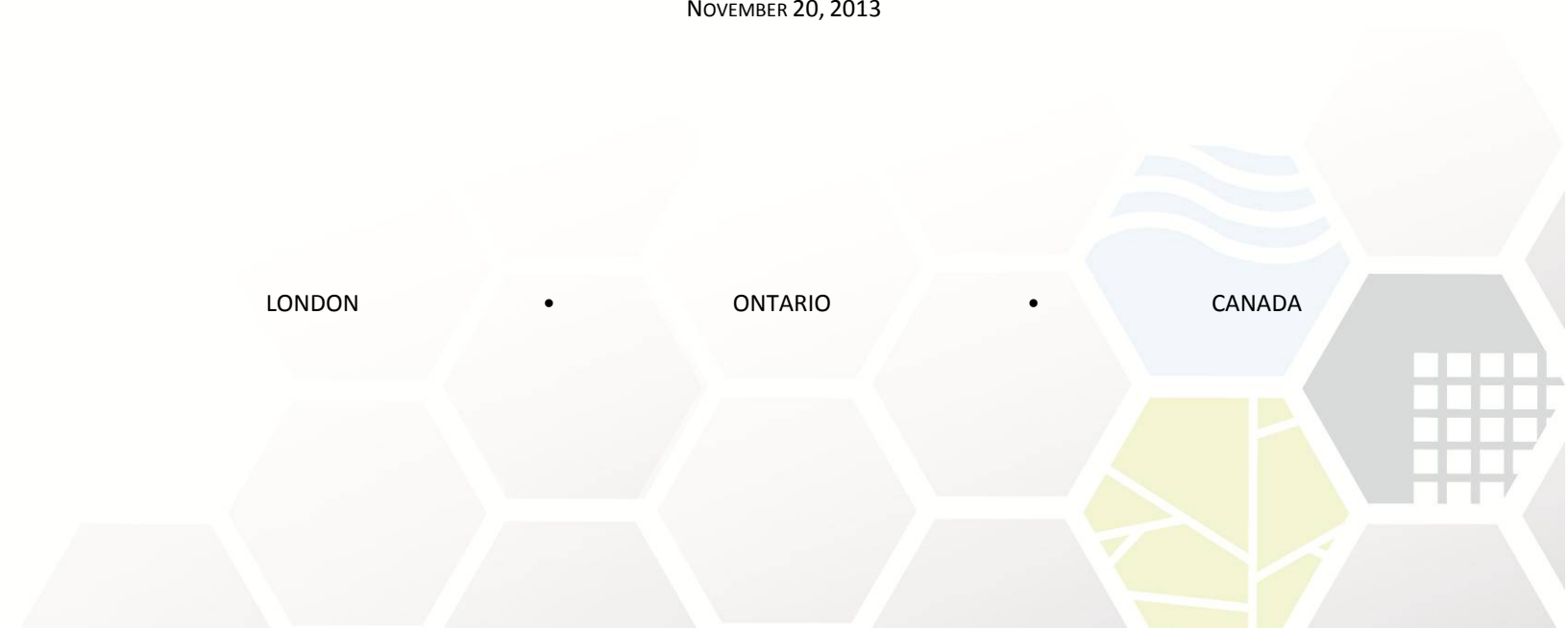


Table of Contents

1.	PLAN SUMMARY – ALPHA-PINENE	3
1.1	Basic Facility Information.....	3
1.2	Toxic Reduction Policy Statement of Intent.....	3
1.3	Reduction Objectives	4
1.4	Description of Substance	4
1.5	Toxic Substance Reduction Option to be Implemented	4
1.6	Plan Summary Statement	5
1.7	Copy of Plan Certification	5
2.	PLAN SUMMARY – BETA-PHELLANDRENE	6
2.1	Basic Facility Information.....	6
2.2	Toxic Reduction Policy Statement of Intent.....	6
2.3	Reduction Objectives	7
2.4	Description of Substance	7
2.5	Toxic Substance Reduction Option to be Implemented	7
2.6	Plan Summary Statement	8
2.7	Copy of Plan Certification	8
3.	PLAN SUMMARY – BETA-PINENE.....	9
3.1	Basic Facility Information.....	9
3.2	Toxic Reduction Policy Statement of Intent.....	9
3.3	Reduction Objectives	10
3.4	Description of Substance	10
3.5	Toxic Substance Reduction Option to be Implemented	10
3.6	Plan Summary Statement	11
3.7	Copy of Plan Certification	11
4.	PLAN SUMMARY – CARBON MONOXIDE	12
4.1	Basic Facility Information.....	12
4.2	Toxic Reduction Policy Statement of Intent.....	12
4.3	Reduction Objectives	13
4.4	Description of Substance	13
4.5	Toxic Substance Reduction Option to be Implemented	13
4.6	Plan Summary Statement	14
4.7	Copy of Plan Certification	14
5.	PLAN SUMMARY – ETHYL ALCOHOL	15
5.1	Basic Facility Information.....	15
5.2	Toxic Reduction Policy Statement of Intent.....	15
5.3	Reduction Objectives	16
5.4	Description of Substance	16
5.5	Toxic Substance Reduction Option to be Implemented	16
5.6	Plan Summary Statement	17

5.7	Copy of Plan Certification	17
6.	PLAN SUMMARY – OXIDES OF NITROGEN (NO _x)	18
6.1	Basic Facility Information	18
6.2	Toxic Reduction Policy Statement of Intent.....	18
6.3	Reduction Objectives	19
6.4	Description of Substance	19
6.5	Toxic Substance Reduction Option to be Implemented	19
6.6	Plan Summary Statement	20
6.7	Copy of Plan Certification	20
7.	PLAN SUMMARY – Particulate Matter ≤ 10 Microns	21
7.1	Basic Facility Information.....	21
7.2	Toxic Reduction Policy Statement of Intent.....	21
7.3	Reduction Objectives	22
7.4	Description of Substance	22
7.5	Toxic Substance Reduction Option to be Implemented	22
7.6	Plan Summary Statement	23
7.7	Copy of Plan Certifications	23
8.	PLAN SUMMARY – PARTICULATE MATTER ≤2.5 MICRONS	24
8.1	Basic Facility Information.....	24
8.2	Toxic Reduction Policy Statement of Intent.....	24
8.3	Reduction Objectives	25
8.4	Description of Substance	25
8.5	Toxic Substance Reduction Option to be Implemented	25
8.6	Plan Summary Statement	26
8.7	Copy of Plan Certification	26
9.	PLAN SUMMARY – PARTICULATE MATTER (TPM)	27
9.1	Basic Facility Information.....	27
9.2	Toxic Reduction Policy Statement of Intent.....	27
9.3	Reduction Objectives	28
9.4	Description of Substance	28
9.5	Toxic Substance Reduction Option to be Implemented	28
9.6	Plan Summary Statement	29
9.7	Copy of Plan Certification	29
10.	BASIC FACILITY INFORMATION	30
11.	COPY OF PLAN CERTIFICATION	31

1. PLAN SUMMARY – ALPHA-PINENE

Name and CASRN of Substance	Alpha-pinene	80-56-8
Substances for which other plans have been prepared	Beta-phellandrene	555-10-2
	Beta-pinene	127-91-3
	Cadmium (and its compounds)	Not Applicable
	Carbon Monoxide (CO)	630-08-0
	Ethyl Alcohol	64-17-5
	Methanol	67-56-1
	Lead (and its compounds)	Not Applicable
	Manganese (and its compounds)	Not Applicable
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤10 Microns	Not Applicable
Particulate Matter ≤2.5 Microns	Not Applicable	
Total Particulate Matter (TPM)	Not Applicable	

1.1 Basic Facility Information

Basic facility information has been included in Section 10 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 creation 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

Our goal is to reduce the creation 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 is naturally occurring in the lumber and is released into the environment upon drying of the lumber.

1.5 Toxic Substance Reduction Option to be Implemented

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

- 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 option above are as follows:

Substance: Alpha-pinene

CASRN: 80-56-8

Reduction Option: Process Modification & Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	8.103	0	8.103	0	0	0	0	0
Estimated reduced amount	0	7.293	0	7.293	0	0	0	0	0
Reduction	0	0.810	0	0.810	0	0	0	0	0
% Reduction	NA	10%	NA	10%	NA	NA	NA	NA	NA

Note: All values are presented in 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 20, 2013.

1.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

2. 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
	Beta-pinene	127-91-3
	Cadmium (and its compounds)	Not Applicable
	Carbon Monoxide (CO)	630-08-0
	Ethyl Alcohol	64-17-5
	Methanol	67-56-1
	Lead (and its compounds)	Not Applicable
	Manganese (and its compounds)	Not Applicable
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤ 10 Microns	Not Applicable
Particulate Matter ≤ 2.5 Microns	Not Applicable	
Total Particulate Matter (TPM)	Not Applicable	

2.1 Basic Facility Information

Basic facility information has been included in Section 10 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.

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 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.

2.3 Reduction Objectives

Our goal is to reduce the creation 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 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.

2.4 Description of Substance

Beta-phellandrene is naturally occurring in the lumber and is released into the environment upon drying of the lumber.

2.5 Toxic Substance Reduction Option to be Implemented

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

- 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 option above are as follows:

Substance: Beta-phellandrene

CASRN: 555-10-2

Reduction Option: Process Modification & Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	4.427	0	4.427	0	0	0	0	0
Estimated reduced amount	0	3.984	0	3.984	0	0	0	0	0
Reduction	0	0.443	0	0.443	0	0	0	0	0
% Reduction	NA	10%	NA	10%	NA	NA	NA	NA	NA

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

2.6 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 20, 2013.

2.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 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
	Beta-phellandrene	555-10-2
	Cadmium (and its compounds)	Not Applicable
	Carbon Monoxide (CO)	630-08-0
	Ethyl Alcohol	64-17-5
	Methanol	67-56-1
	Lead (and its compounds)	Not Applicable
	Manganese (and its compounds)	Not Applicable
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤ 10 Microns	Not Applicable
Particulate Matter ≤ 2.5 Microns	Not Applicable	
Total Particulate Matter (TPM)	Not Applicable	

3.1 Basic Facility Information

Basic facility information has been included in Section 10 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.

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 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

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 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.

3.4 Description of Substance

Beta-pinene is naturally occurring in the lumber and is released into the environment upon drying of the lumber.

3.5 Toxic Substance Reduction Option to be Implemented

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

- 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 option above are as follows:

Substance: Beta-pinene

CASRN: 127-91-3

Reduction Option: Process Modification & Improved Operating Practices

	Used	Created	In Product	On-site Releases			Disposals		Recycling
				Air	Water	Land	On-site	Off-site	Off-site
Baseline	0	4.634	0	4.634	0	0	0	0	0
Estimated reduced amount	0	4.171	0	4.171	0	0	0	0	0
Reduction	0	0.463	0	0.463	0	0	0	0	0
% Reduction	NA	10%	NA	10%	NA	NA	NA	NA	NA

Note: All values are presented in 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 20, 2013.

3.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

4. 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
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA - 03
	Ethyl Alcohol	64-17-5
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
Particulate Matter (TPM)	NA-M08	

4.1 Basic Facility Information

Basic facility information has been included in Section 10 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.

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 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.

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 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.

4.4 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.

4.5 Toxic Substance Reduction Option to be Implemented

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

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

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

Substance: Carbon Monoxide

CASRN: 630-08-0

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	145.869	NA	145.869	NA	NA	NA	NA	NA
Estimated reduced amount	0	142.952	NA	142.952	NA	NA	NA	NA	NA
Reduction	0	2.917	NA	2.917	NA	NA	NA	NA	NA
% Reduction	NA	2%	NA	2%	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 Carbon Monoxide, prepared on behalf of Tembec, dated November 20, 2013.

4.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

5. 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
	Beta-Pinene	127-91-3
	Beta-Phellandrene	555-10-2
	Cadmium (and its compounds)	NA – 03
	Carbon Monoxide	630-08-0
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
Particulate Matter (TPM)	NA-M08	

5.1 Basic Facility Information

Basic facility information has been included in Section 10 of this document.

5.2 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 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.

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 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.

5.4 Description of Substance

Ethyl Alcohol is 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.

5.5 Toxic Substance Reduction Option to be Implemented

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

- Improved Operating Practices – monitoring of lumber moisture content to prevent over-drying of the lumber in the wood kilns.

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

Substance: Ethyl Alcohol

CASRN: 64-17-5

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	1.411	0	1.411	0	0	0	0	0
Estimated reduced amount	0	1.272	0	1.272	0	0	0	0	0
Reduction	0	0.139	0	0.139	0	0	0	0	0
% Reduction	NA	9.9%	NA	9.9%	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 Ethyl Alcohol, prepared on behalf of Tembec, dated November 20, 2013.

5.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

6. PLAN SUMMARY – OXIDES OF NITROGEN (NO_x)

Name and CASRN of Substance	Oxides of Nitrogen (NO _x)	11104-93-1
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
	Ethyl Alcohol	64-17-5
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08

6.1 Basic Facility Information

Basic facility information has been included in Section 10 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.

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 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.

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 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.

6.4 Description of Substance

Oxides of Nitrogen is created and released when wood waste is combusted to produce steam in the facility's kiln boiler. It is also created and released by the oil combusted in the facility's boiler. Oxides of Nitrogen also is created and released when wood waste is combusted to produce steam for the facility's cogeneration unit. Creation and release of Oxides of Nitrogen is directly related to the quantity of fuel burned annually.

6.5 Toxic Substance Reduction Option to be Implemented

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

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

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

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	67.859	NA	67.859	NA	NA	NA	NA	NA
Estimated reduced amount	0	66.502	NA	66.502	NA	NA	NA	NA	NA
Reduction	0	1.357	NA	1.357	NA	NA	NA	NA	NA
% Reduction	NA	2%	NA	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 NO_x, prepared on behalf of Tembec, dated November 20, 2013.

6.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

7. 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
	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
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤2.5 Microns	NA-M10
	Particulate Matter (TPM)	NA-M08

7.1 Basic Facility Information

Basic facility information is included in Section 10 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.

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 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

Tembec's goal is to reduce the creation of Particulate Matter ≤ 10 Microns (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 a by-product of combustion and traffic on unpaved roads at the facility and that most current research seeks to abate these emissions using end of pipe controls.

7.4 Description of Substance

PM_{10} is created as a by-product through the combustion of wood waste in the facility's cogeneration unit and the combustion of wood waste and oil in the wood boiler. The amount of PM_{10} produced is directly related to the amount of wood waste burned annually. PM_{10} is created as a by-product in the sawmill operations through the production of dimensional lumber. It is also a result of traffic on unpaved roads at the facility.

7.5 Toxic Substance Reduction Option to be Implemented

The following option has been identified for implementation to reduce the creation and release of PM_{10} :

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

PM_{10} reductions due to implementing the options above are as follows:

Substance: Particulate Matter ≤ 10 Microns

CASRN: Not Applicable

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	0	23.307	0	23.307	0	0	0	0	0
Estimated reduced amount	0	22.912	0	22.912	0	0	0	0	0
Reduction	0	0.395	0	0.395	0	0	0	0	0
% Reduction	NA	1.7%	NA	1.7%	NA	NA	NA	NA	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 PM₁₀, prepared on behalf of Tembec, dated November 20, 2013

7.7 Copy of Plan Certifications

A copy of the plan certification is presented in Section 11 of this document.

8. 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
	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
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter (TPM)	NA-M08

8.1 Basic Facility Information

Basic facility information has been included in Section 10 of this document.

8.2 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 ≤ 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.

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 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 and most current research seeks to $PM_{2.5}$ emissions using end of pipe controls.

8.4 Description of Substance

$PM_{2.5}$ is created as a by-product through the combustion of wood waste in the facility's cogeneration unit, the combustion of wood waste and oil in the wood boiler and by vehicular traffic on the unpaved roads at the facility. $PM_{2.5}$ is also created as a by-product in the sawmill operations through the production of dimensional lumber.

8.5 Toxic Substance Reduction Option to be Implemented

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

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

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

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	16.987	NA	16.987	NA	NA	NA	NA	NA
Estimated reduced amount	0	16.669	NA	16.669	NA	NA	NA	NA	NA
Reduction	0	0.318	NA	0.318	NA	NA	NA	NA	NA
% Reduction	NA	1.9%	NA	1.9%	NA	NA	NA	NA	NA

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

8.6 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 20, 2013.

8.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

9. 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
	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
	Lead (and its compounds)	NA-08
	Manganese (and its compounds)	NA-09
	Methanol	67-56-1
	Oxides of Nitrogen (NO _x)	11104-93-1
	Particulate Matter ≤10 Microns	NA-M09
	Particulate Matter ≤2.5 Microns	NA-M10

9.1 Basic Facility Information

Basic facility information has been included in Section 10 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.

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 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.

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 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.

9.4 Description of Substance

TPM is created as a by-product through the combustion of wood waste in the facility's cogeneration unit, the combustion of wood waste and oil in the wood boiler and by vehicular traffic on the unpaved roads at the facility. TPM is also created as a by-product in the sawmill operations through the production of dimensional lumber.

9.5 Toxic Substance Reduction Option to be Implemented

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

- Improved Operating Practices – continuous improvement of boiler efficiencies and steam use.

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

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	45.306	NA	45.306	NA	NA	NA	NA	NA
Estimated reduced amount	0	44.770	NA	44.770	NA	NA	NA	NA	NA
Reduction	0	0.536	NA	0.536	NA	NA	NA	NA	NA
% Reduction	NA	1.2%	NA	1.2%	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 TPM, prepared on behalf of Tembec, dated November 20, 2013.

9.7 Copy of Plan Certification

A copy of the plan certification is presented in Section 11 of this document.

10. BASIC FACILITY INFORMATION

Facility Identification and Site Address		
Company Name	Tembec	
Facility Name	Tembec Chapleau	
Facility Address	Physical Address:	Mailing Address
	175 Planer Road Chapleau ON P0M 1K0	175 Planer Road Chapleau ON P0M 1K0
Spatial Coordinates (UTM)	318489.7 (Easting)	5301986.7 (Northing)
Datum	WGS84	
Number of Employees	167 (Full time equivalents)	
NPRI ID	10397	
ON MOE ID	-	
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	3211 Sawmills and Wood Preservation	
6 Digit NAICS Code	321111 Sawmills	
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	

11. COPY OF PLAN CERTIFICATION

Certification by the Highest Ranking Employee

As of December 13, 2013, I, Eric Tremblay, 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	Oxides of Nitrogen (NO ₂)
Beta-pinene	Particulate Matter ≤2.5 Microns
Beta-phellandrene	Particulate Matter ≤10 Microns
Carbon Monoxide (CO)	Total Particulate Matter (TPM)
Ethyl Alcohol	



Eric Tremblay
General Manager
Tembec Chapleau Operations

Certification by Licensed Planner

As of December 13, 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 20, 2013 and that the plans comply with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substances:

Alpha-pinene	Oxides of Nitrogen (NO ₂)
Beta-pinene	Particulate Matter ≤2.5 Microns
Beta-phellandrene	Particulate Matter ≤10 Microns
Carbon Monoxide (CO)	Total Particulate Matter (TPM)
Ethyl Alcohol	



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