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PRECIOUS METALS DIVISION
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TOXICS REDUCTION ACT
TOXIC SUBSTANCE REDUCTION PLAN SUMMARIES
2012

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MARCH 6, 2013

LONDON

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CANADA

Table of Contents

| | | |
|-----|--|----|
| 1. | PLAN SUMMARY – ARSENIC (AND ITS COMPOUNDS) | 1 |
| 1.1 | Basic Facility Information | 1 |
| 1.2 | Toxic Reduction Policy Statement of Intent | 1 |
| 1.3 | Reduction Objectives | 1 |
| 1.4 | Description of Substance | 2 |
| 1.5 | Toxic Substance Reduction Option to be Implemented | 2 |
| 1.6 | Plan Summary Statement | 2 |
| 1.7 | Copy of Plan Certification | 2 |
| 2. | PLAN SUMMARY – CADMIUM (AND ITS COMPOUNDS) | 3 |
| 2.1 | Basic Facility Information | 3 |
| 2.2 | Toxic Reduction Policy Statement of Intent | 3 |
| 2.3 | Reduction Objectives | 3 |
| 2.4 | Description of Substance | 4 |
| 2.5 | Toxic Substance Reduction Option to be Implemented | 4 |
| 2.6 | Plan Summary Statement | 4 |
| 2.7 | Copy of Plan Certification | 4 |
| 3. | PLAN SUMMARY – CHLORINE | 5 |
| 3.1 | Basic Facility Information | 5 |
| 3.2 | Toxic Reduction Policy Statement of Intent | 5 |
| 3.3 | Reduction Objectives | 5 |
| 3.4 | Description of Substance | 6 |
| 3.5 | Toxic Substance Reduction Option to be Implemented | 6 |
| 3.6 | Plan Summary Statement | 6 |
| 3.7 | Copy of Plan Certification | 6 |
| 4. | PLAN SUMMARY – COPPER (AND ITS COMPOUNDS) | 7 |
| 4.1 | Basic Facility Information | 7 |
| 4.2 | Toxic Reduction Policy Statement of Intent | 7 |
| 4.3 | Reduction Objectives | 7 |
| 4.4 | Description of Substance | 8 |
| 4.5 | Toxic Substance Reduction Option to be Implemented | 8 |
| 4.6 | Plan Summary Statement | 8 |
| 4.7 | Copy of Plan Certification | 8 |
| 5. | PLAN SUMMARY – HYDROCHLORIC ACID | 9 |
| 5.1 | Basic Facility Information | 9 |
| 5.2 | Toxic Reduction Policy Statement of Intent | 9 |
| 5.3 | Reduction Objectives | 9 |
| 5.4 | Description of Substance | 10 |



| | | |
|-----|--|----|
| 5.5 | Toxic Substance Reduction Option to be Implemented | 10 |
| 5.6 | Plan Summary Statement..... | 10 |
| 5.7 | Copy of Plan Certification..... | 10 |
| 6. | PLAN SUMMARY – LEAD (AND ITS COMPOUNDS) | 11 |
| 6.1 | Basic Facility Information | 11 |
| 6.2 | Toxic Reduction Policy Statement..... | 11 |
| 6.3 | Reduction Objectives | 11 |
| 6.4 | Description of Substance | 12 |
| 6.5 | Toxic Substance Reduction Option to be Implemented | 12 |
| 6.6 | Plan Summary Statement..... | 12 |
| 6.7 | Copy of Plan Certification..... | 12 |
| 7. | PLAN SUMMARY – SELENIUM (AND ITS COMPOUNDS) | 13 |
| 7.1 | Basic Facility Information | 13 |
| 7.2 | Toxic Reduction Policy Statement..... | 13 |
| 7.3 | Reduction Objectives | 13 |
| 7.4 | Description of Substance | 14 |
| 7.5 | Toxic Substance Reduction Option to be Implemented | 14 |
| 7.6 | Plan Summary Statement..... | 14 |
| 7.7 | Copy of Plan Certification..... | 14 |
| 8. | PLAN SUMMARY – SILVER (AND ITS COMPOUNDS)..... | 15 |
| 8.1 | Basic Facility Information | 15 |
| 8.2 | Toxic Reduction Policy Statement..... | 15 |
| 8.3 | Reduction Objectives | 15 |
| 8.4 | Description of Substance | 16 |
| 8.5 | Toxic Substance Reduction Option to be Implemented | 16 |
| 8.6 | Plan Summary Statement..... | 16 |
| 8.7 | Copy of Plan Certification..... | 16 |
| 9. | PLAN SUMMARY – ZINC (AND ITS COMPOUNDS)..... | 17 |
| 9.1 | Basic Facility Information | 17 |
| 9.2 | Toxic Reduction Policy Statement..... | 17 |
| 9.3 | Reduction Objectives | 17 |
| 9.4 | Description of Substance | 18 |
| 9.5 | Toxic Substance Reduction Option to be Implemented | 18 |
| 9.6 | Plan Summary Statement..... | 18 |
| 9.7 | Copy of Plan Certification..... | 18 |
| 10. | BASIC FACILITY INFORMATION | 19 |
| 11. | COPY OF PLAN CONFIRMATION..... | 20 |

1. PLAN SUMMARY – ARSENIC (AND ITS COMPOUNDS)

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Arsenic (and its compounds) | Not Applicable |
| Substances for which other plans have been prepared | Cadmium (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| | Zinc (and its compounds) | 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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Arsenic (and its compounds) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Arsenic (and its compounds) where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to note that Arsenic is naturally occurring in trace amounts in many of the materials received and

processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

1.4 Description of Substance

Arsenic (and its compounds) are naturally occurring in trace quantities in the precious metals received by the facility for refining and processing.

1.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

1.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Arsenic (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

1.7 Copy of Plan Certification

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

2. PLAN SUMMARY – CADMIUM (AND ITS COMPOUNDS)

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Cadmium (and its compounds) | Not Applicable |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| | Zinc (and its compounds) | 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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Cadmium (and its compounds) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Cadmium (and its compounds) where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to note that Cadmium is naturally occurring in trace amounts in many of the materials received

and processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

2.4 Description of Substance

Cadmium (and its compounds) are naturally occurring in trace quantities in the precious metals received by the facility for refining and processing.

2.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

2.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Cadmium (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

2.7 Copy of Plan Certification

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

3. PLAN SUMMARY – CHLORINE

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Chlorine | 7782-50-5 |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| | Zinc (and its compounds) | 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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Chlorine in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Chlorine where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program.

3.4 Description of Substance

Chlorine gas is used in the refining of gold via the Miller Chlorination process. This chemical process involves blowing a stream of pure chlorine gas over and through a crucible filled with molten, but impure, gold. This process purifies the gold because nearly all other elements will form chlorides before gold does, and they can then be removed as salts that are insoluble in the molten metal.

When all impurities have been removed from the gold (observable by a change in flame color) the gold is removed and processed in the manner required for sale or use. The resulting gold is 99.5% pure.

The Wohlwill process is an industrial-scale chemical procedure used to refine gold to the highest degree of purity (99.99%). This electrochemical process involves using a cast doré ingot of 99%+ gold to serve as an anode. The cathode(s) for this reaction are titanium plates. Current is applied to the system, and electricity travels through the electrolyte of chloroauric acid. Gold and other metals are dissolved at the anode, and pure gold (coming through the chloroauric acid by ion transfer) is plated onto the titanium cathode. Chlorine gas is used in this process to produce the chloroauric acid.

3.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

3.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Chlorine, prepared on behalf of Johnson Matthey, dated December 19, 2012.

3.7 Copy of Plan Certification

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

4. PLAN SUMMARY – COPPER (AND ITS COMPOUNDS)

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Copper (and its compounds) | Not Applicable |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| Zinc (and its compounds) | Not Applicable | |

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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Copper (and its compounds) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey’s goal is to reduce the use and release of Copper (and its compounds) where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to

note that Copper is naturally occurring in many of the materials received and processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

4.4 Description of Substance

Copper (and its compounds) are naturally occurring in the precious metals received by the facility for refining and processing.

4.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

4.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Copper (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

4.7 Copy of Plan Certification

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

5. PLAN SUMMARY – HYDROCHLORIC ACID

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Hydrochloric Acid | 7647-01-0 |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Copper (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| | Zinc (and its compounds) | Not Applicable |

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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Hydrochloric Acid in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Hydrochloric Acid where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program.

5.4 Description of Substance

Hydrochloric Acid is used in the Wohlwill process to produce chloroauric acid. The Wohlwill process is an industrial-scale chemical procedure used to refine gold to the highest degree of purity (99.99%). This electrochemical process involves using a cast doré ingot of 99%+ gold to serve as an anode. The cathode(s) for this reaction are titanium plates. Current is applied to the system, and electricity travels through the electrolyte of chloroauric acid. Gold and other metals are dissolved at the anode, and pure gold (coming through the chloroauric acid by ion transfer) is plated onto the titanium cathode. Chlorine gas is used in this process to produce the chloroauric acid.

Hydrochloric Acid is also used with Zinc as part of the refining stage to recover precious metals from the refining residues via precipitation.

Hydrochloric Acid is used by the waste water treatment operations to control the pH of the effluent prior to discharge to the municipal sanitary sewer. Use of Hydrochloric Acid at this stage is directly related to the quantity of effluent discharged on an annual basis and the relative pH of the effluent.

5.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

5.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Hydrochloric Acid, prepared on behalf of Johnson Matthey, dated December 19, 2012.

5.7 Copy of Plan Certification

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

6. PLAN SUMMARY – LEAD (AND ITS COMPOUNDS)

| Name and CASRN of Substance | Lead (and its compounds) | Not Applicable |
|---|------------------------------|----------------|
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| | Zinc (and its compounds) | Not Applicable |

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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Lead (and its compounds) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Lead (and its compounds) where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to note that Lead is naturally occurring in trace amounts in many of the materials received and

processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

6.4 Description of Substance

Lead (and its compounds) are naturally occurring in trace quantities in the precious metals received by the facility for refining and processing. Lead coupons and powdered lead oxide are also used by the facility's assay laboratory to complete fire assays of gold samples.

6.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

6.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Lead (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

6.7 Copy of Plan Certification

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

7. PLAN SUMMARY – SELENIUM (AND ITS COMPOUNDS)

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Selenium (and its compounds) | Not Applicable |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |
| | Zinc (and its compounds) | Not Applicable |

7.1 Basic Facility Information

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

7.2 Toxic Reduction Policy Statement of Intent

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey 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 Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Selenium (and its compounds) where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to note that Selenium is naturally occurring in trace amounts in many of the materials received

and processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

7.4 Description of Substance

Selenium (and its compounds) are naturally occurring in trace quantities in the precious metals received by the facility for refining and processing.

7.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

7.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Selenium (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

7.7 Copy of Plan Certification

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

8. PLAN SUMMARY – SILVER (AND ITS COMPOUNDS)

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Silver (and its compounds) | Not Applicable |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| Zinc (and its compounds) | Not Applicable | |

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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

As refined silver is one of the finished products made by the facility, Johnson Matthey is unable to reduce the use and release of Silver (and its compounds). However, as part of their commitment to sustainability, Johnson Matthey ensures sound management of chemicals throughout their complete life cycle, so that ‘chemicals are produced and used in ways that minimise significant adverse impacts on human health and the environment’.

8.3 Reduction Objectives

Johnson Matthey is unable to reduce the use of Silver (and its compounds) as refined silver is one of the finished products made by the facility. However, as part of their commitment to sustainability, Johnson Matthey ensures sound management of chemicals and materials throughout their complete life cycle, so that ‘chemicals and materials are produced and used in ways that minimise significant adverse impacts on human health and the environment’.

8.4 Description of Substance

Silver (and its compounds) are received by the facility from various sources in materials such as primary doré, recycled jewellery, industrial scrap, financial institution materials, etc. Refined silver is one of the key final commodities produced by the facility.

8.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

8.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Silver (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

8.7 Copy of Plan Certification

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

9. PLAN SUMMARY – ZINC (AND ITS COMPOUNDS)

| | | |
|--|------------------------------|----------------|
| Name and CASRN of Substance | Zinc (and its compounds) | Not Applicable |
| Substances for which other plans have been prepared | Arsenic (and its compounds) | Not Applicable |
| | Cadmium (and its compounds) | Not Applicable |
| | Chlorine | 7782-50-5 |
| | Copper (and its compounds) | Not Applicable |
| | Hydrochloric Acid | 7647-01-0 |
| | Lead (and its compounds) | Not Applicable |
| | Selenium (and its compounds) | Not Applicable |
| | Silver (and its compounds) | Not Applicable |

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

For Johnson Matthey, sustainability is about how they can best run their business in the long term. In the decades to come, they want to be a successful, prosperous business that offers their customers the products and technologies to reduce their sustainability footprint, while also reducing their own. They turn raw materials into products that are much more valuable. Resource efficiency is a win-win for their customers and themselves. They plan to grow their expertise in resource efficiency to develop better and more sustainable products for their customers and improve their competitiveness. Their aim is to show that they have used the fewest resources in the most efficient way to produce the best possible products. They want this to be recognised by their customers as a core part of their competitive advantage. By 2017, they want to do this with zero waste and using 50% fewer key resources.

Wherever feasible, Johnson Matthey will reduce the use and release of Zinc (and its compounds) in full compliance with all federal and provincial regulations. Toxic substance reduction will be an ongoing effort at Johnson Matthey, 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

Johnson Matthey's goal is to reduce the use and release of Zinc (and its compounds) where technically and economically feasible. Based on currently available information and technologies, there are no technically and economically reduction options currently available for this substance. However, Johnson Matthey will continue to explore and investigate potential options as they arise as part of their sustainability program. It is also important to note that Zinc is naturally occurring in trace amounts in many of the materials received and

processed by the facility (e.g., primary doré) and that most current research seeks to abate these emissions using end of pipe controls.

9.4 Description of Substance

Zinc (and its compounds) are naturally occurring in trace quantities in the precious metals received by the facility for refining and processing. The facility also uses Zinc as part of the refining process to recover precious metals from residues.

9.5 Toxic Substance Reduction Option to be Implemented

There are currently no options that have been determined to be both technically and economically feasible.

9.6 Plan Summary Statement

This plan accurately reflects the content of the toxic substance reduction plan for Zinc (and its compounds), prepared on behalf of Johnson Matthey, dated December 19, 2012.

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 | Johnson Matthey Limited | |
| Facility Name | Precious Metals Division | |
| Facility Address | Physical Address: | Mailing Address |
| | 130 Glidden Road Brampton ON L6W 3M8 | 130 Glidden Road Brampton ON L6W 3M8 |
| Spatial Coordinates (UTM) | 603005 (Easting) | 4838353 (Northing) |
| Datum | WGS84 | |
| Number of Employees | 122 (Full time equivalents) | |
| NPRI ID | 3991 | |
| ON MOE ID | - | |
| Parent Company Information | | |
| Parent Company Name & Address | Johnson Matthey Limited 130 Glidden Road Brampton ON L6W 3M8 | |
| Percent Ownership | 100% | |
| Primary North American Industrial Classification System Code (NAICS) | | |
| 2 Digit NAICS Code | 31-33 Manufacturing | |
| 4 Digit NAICS Code | 3314 - Non-Ferrous (exc. Al) Production & Processing | |
| 6 Digit NAICS Code | 331410 - Non-Ferrous (except Al) Smelting & Refining | |
| Company Contact Information | | |
| Facility Public Contact | Andy Calovini Environmental, Health and Safety Manager | Contact Address |
| | calovinia@matthey.com | Johnson Matthey Limited 130 Glidden Road Brampton ON L6W 3M8 |
| | Phone: (905) 454-6851 | |
| | Fax: (905) 454-6874 | |

11. COPY OF PLAN CONFIRMATION

Rationale Statement – Highest Ranking Employee

Submission of the required plan summaries and certification statements via the Environment Canada Single Window Information Manager (SWIM) system has been delayed as a result of the investigation and assessment of reduction options taking longer than anticipated to complete. Rather than compromise the integrity of the report and results by rushing the assessment to meet the deadline, we have chosen to take the time to properly evaluate all options we believe to be currently available for our operations. As such, submission of the required elements of the toxic substance reduction plans could not be made by the regulatory deadline.

Confirmation by the Highest Ranking Employee

As of March 14, 2013, I, Dave Murray, confirm 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, with the exception of the regulatory deadline, comply with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substances:

| | |
|-----------------------------|------------------------------|
| Arsenic (and its compounds) | Lead (and its compounds) |
| Cadmium (and its compounds) | Selenium (and its compounds) |
| Chlorine | Silver (and its compounds) |
| Copper (and its compounds) | Zinc (and its compounds) |
| Hydrochloric Acid | |



Dave Murray
Operations Manager
Johnson Matthey Limited – Precious Metals Division



Confirmation by Licensed Planner

As of March 14, 2013, I, Tim Logan confirm that I am familiar with the processes at Johnson Matthey Limited's Precious Metals Division 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 December 19, 2012 and that the plans, with the exception of the regulatory deadline, comply with that Act and Ontario Regulation 455/09 (General) made under that Act.

Toxic Substances:

| | |
|-----------------------------|------------------------------|
| Arsenic (and its compounds) | Lead (and its compounds) |
| Cadmium (and its compounds) | Selenium (and its compounds) |
| Chlorine | Silver (and its compounds) |
| Copper (and its compounds) | Zinc (and its compounds) |
| Hydrochloric Acid | |



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