

**Gerdau AmeriSteel Hg P2 PLAN:
POLLUTION PREVENTION (P2) PLAN
IN RESPECT OF MERCURY RELEASES FROM MERCURY SWITCHES IN END-OF-
LIFE VEHICLES PROCESSED BY STEEL MILLS**

A. Pollution Prevention Plan Overview

On December 29, 2007, Environment Canada (EC) published *Notice Requiring the Preparation and Implementation of Pollution Prevention Plans in Respect of Mercury Releases from Mercury Switches in End-of-Life Vehicles Processed by Steel Mills* in Canada Gazette, Part I (the “Notice”).

Gerdau AmeriSteel is committed to complying with the requirements of the Notice, with the goal of minimizing the presence of mercury in scrap that may result in emissions of mercury from steelmaking and ilmenite smelting operations. To accomplish this objective, Gerdau AmeriSteel, as a member company of the Canadian Steel Producers Association (CSPA), actively supports and participates in an industry-wide pollution prevention plan entitled “Canadian Steel Producers Association Mercury Pollution Prevention Plan” (CSPA Hg P2 Plan).

The CSPA Hg P2 Plan

The CSPA Hg P2 Plan is designed in accordance with factors listed in the Notice. The elements of the Plan correspond to the numbering in the Notice.

1. Definitions

In addition to the definitions set out in the Notice, the following definition will be used in various parts of the P2 Plan including section 4.(3)(d):

“Scrap supplier” is defined as the entity (including a broker) that contracts directly with a steel mill to provide scrap that contains motor vehicle scrap. The owner or operator of a steelmaking facility that also owns and operates a scrap shredder is a scrap supplier for motor vehicle scrap that is processed in that shredder and supplied to the steelmaking facility. Scrap processors such as shredder operators or vehicle dismantlers that do not sell scrap directly to a steel mill are not *scrap suppliers*.

2. Person or class of persons required to prepare and implement pollution

The Notice applies to any person or class of persons who owns or operates a steel mill that processes end-of-life vehicle scrap to produce steel or steel products.

3. Activities in relation to which the plan is to be prepared

Gerdau AmeriSteel is identified in Section 2 of the Notice, or is covered by that definition, as being required to prepare and implement a pollution prevention plan in relation to the management of mercury switches from end-of-life vehicles.

4. Factors Considered in Preparing the Plan

- (1) The risk management objective of this Plan is to reduce releases of mercury to the environment through participation by steel mills in a mercury switch recovery management program in Canada.
- (2) CSPA member companies recognize that mercury is a toxic substance on the List of Toxic Substances on Schedule 1 of the Canadian Environmental Protection Act, 1999 (CEPA).
- (3) Rather than establish a new national mercury switch recovery management program, the CSPA (of which Gerdau AmeriSteel is a member) has entered into an agreement with the Canadian Vehicle Manufacturers Association (CVMA) to co-fund the *Switch Out* program, currently managed by the Clean Air Foundation (CAF), and to expand *Switch Out* across Canada. *Switch Out* removes, collects and retorts automotive convenience light switches and automotive ABS modules that contain mercury switches from end-of-life vehicles from across Canada as quickly and cost effectively as possible. It facilitates the management of mercury switches by vehicle recyclers and includes but is not limited to the following:
 - (a) Not applicable to steel producers.
 - (b) The current *Switch Out* funding agreement is in place for three years, (through to 2010), with provisions for the parties to renew the agreement up to 2017.
 - (c) CSPA is co-funding the national *Switch Out* program with the Canadian Vehicle Manufacturers' Association (CVMA). Annex A describes the scope of work to be undertaken by CAF as the delivery agent of the national *Switch Out* Program, in addition to the roles of CSPA and CVMA.
 - (d) As described in Annex A, CAF will develop and distribute educational references for vehicle recyclers, such as a Dismantlers' Guide. To further promote the removal of mercury from end-of-life vehicles before they are recycled into new steel, CSPA member companies, including Gerdau AmeriSteel, will be informing scrap suppliers about the *Switch Out* Program and implementing a purchasing policy that requires scrap suppliers to provide in which the presence of mercury is minimized to the practical extent possible.
 - (e) Gerdau AmeriSteel, through the CSPA, will work with CVMA to develop annual targets for the number of mercury switches to be collected and for the capture rate of mercury switches based on the estimate of possible available switches, in consideration of an ultimate goal of achieving an annual capture rate of 90% within the first four years of participation in the mercury switch management program. The number of mercury switches available for collection each year will be submitted in Schedule 1 as required by Section 9 of the Notice.

- (f) Annual national targets, timelines and results of the management of mercury switches, including the number of mercury switches collected and estimated capture rate, will be made available to the public.

Per CSPA's submission to EC on Feb. 7, 2007, there are concerns that the "capture rate" as defined in the Notice relies on uncertain data that would affect the accuracy of measurement and reported performance. In particular, it is difficult to account for imported scrap derived from end-of-life vehicles, as well as tracking the quantity of end-of-life vehicle scrap that is exported beyond Canadian jurisdictions.

In addition to the capture rate, CSPA will also measure the annual "effectiveness rate" of the *Switch Out* program. The "effectiveness rate" is defined as one (1) minus the ratio of the number of accessible mercury switches annually managed from end-of-life vehicles that are dismantled, recycled, shredded or crushed by vehicle recyclers; to the cumulative number of accessible mercury switches managed to date. For example, in the first year, say 2008, 100,000 mercury switches were recovered. The effectiveness rate of 2008 would be $1 - (100,000/100,000) = 0$. In 2009, if 200,000 additional switches were collected, the effectiveness rate would be $1 - (200,000/300,000) = 0.33$, or 33%. The effectiveness rate increases as more switches are collected. CSPA believes that once a 95% effectiveness rate is achieved, the mercury available from end-of-life vehicles has been substantially removed from the recycling stream, indicating the successful completion of the CSPA Hg P2 Plan, regardless of the year in which that rate is achieved.

- (g) To ensure that *Switch Out* continues to recover mercury switches effectively, an Advisory Committee has been established to review and identify opportunities to improve program performance. Members of this Advisory Committee include representatives of vehicle recyclers including the Automotive Recyclers of Canada (ARC) and Canadian Association of Recycling Industries (CARI) as well as representatives of CSPA, CVMA and CAF. The Advisory Committee will meet regularly, at a minimum of once per annum, to review the implementation and effectiveness of the *Switch Out* Program. The Advisory Committee will annually consider the implementation of steps to improve program performance in order to achieve the intended capture rate of 90%. CSPA will also monitor the effectiveness rate of the *Switch Out* program as a tool for program improvements and monitoring the quantity of mercury switches that have been recovered from end-of-life vehicles before the associated scrap is recycled into new steel.
- (h) The mercury switches recovered through the *Switch Out* program will be retorted and recycled. The fate of the mercury contained in the mercury switches that were collected will be evaluated in the *Switch Out* Program on an annual basis to ensure that the releases of mercury into the environment are reduced to the maximum extent possible.

- (4) As delivery agent for the national Switch Out Program, CAF will develop and distribute dismantlers' guides for the safe removal of mercury switches and ABS assemblies to participating vehicle recyclers. These guides, information references, mercury switch collection containers, and transport of the containers to the appropriate retorter(s) will be complementary to all participating vehicle recyclers. CSPA, through the Advisory Committee, will be providing input to the development of all information and educational references, including the dismantlers' guide.
- (5) Each member of CSPA will develop its own purchasing policies to require that each Canadian steel mill that purchases end-of-life vehicles, or the scrap derived from end-of-life vehicles, or both, does so after the accessible mercury switches have been removed. Below is the template to serve as a foundation for steel company scrap purchasing policies.

Purchasing Policy

Gerdau AmeriSteel is committed to participating in the national *Switch Out* Program as the most effective means of reducing the number of mercury switches in the vehicle scrap stream, and thereby minimizing potential emissions of mercury to the environment. As part of that commitment, Gerdau AmeriSteel is requiring its facilities to adopt a program with the goal of minimizing the presence of mercury switches in the scrap feedstock.

As a participant of the *Switch Out* Program, Gerdau AmeriSteel will implement the following scrap purchasing policy:

- i. Provide all scrap suppliers with written notice of Gerdau AmeriSteel's participation in *Switch Out* or another approved program and strongly encourage those suppliers also to participate and to encourage their own respective suppliers to participate as well.
- ii. Amend purchasing specifications to require the removal of mercury switches to the extent practicable from all scrap derived from end-of-life vehicles.
- iii. Search the *Switch Out* database to ensure that scrap providers are listed as participating members and conduct an annual review of the database to determine whether the scrap provider remains identified as a *Switch Out* participant or a participant in another approved program, and has demonstrated its participation by collecting and sending mercury switches to the designated retorter for recycling.
- iv. Obtain from scrap providers that cannot demonstrate participation in *Switch Out* such as brokers and shredders written assurances that scrap was received from suppliers that participate in *Switch Out* or another approved program or that the scrap suppliers themselves are signed up for and participating in *Switch Out* or another approved program.

- v. Request and strongly encourage direct scrap suppliers to communicate these requirements to each upstream supplier, dismantler, vehicle crusher, shredder, and scrap processing facility.
 - vi. Maintain a list of suppliers and upstream processors that participate in the *Switch Out* or another approved mercury switch removal program.
 - vii. Confidential Business Information (CBI) is important to the steel industry and to its scrap suppliers. It should be understood that scrap processors may consider their upstream suppliers to be subject to CBI. The *Switch Out* program acknowledges that CBI may limit the ability to gather certain information. CBI is to be respected.
- (6) Gerdau AmeriSteel believes that pollution prevention as defined in section 3 of CEPA is the most effective means to ensure that the releases of mercury into the environment from mercury switches are reduced to the maximum extent possible. The P2 Plan is a mechanism by which mercury is recovered upstream of the steel mill, rather than through an end-of-pipe mechanism. This plan gives priority to pollution prevention activities.
- (7) Gerdau AmeriSteel acknowledges that the Minister will evaluate the effectiveness of the Notice with respect to the risk management objective set out in subsection 4(1) of the Notice, in order to determine if other measures are needed to further prevent or reduce negative impacts on the environment and human health from mercury releases resulting from mercury switches in end-of-life vehicles.

5. Period within which the plan is to be prepared

This Hg P2 Plan was prepared and implementation initiated by Gerdau AmeriSteel within the prescribed deadline of June 27, 2008.

6. Period within which the plan is to be implemented

This plan will be implemented no later than December 12, 2011.

7. Content of P2 Plan

Gerdau AmeriSteel has determined that the CSPA Hg P2 Plan meets all requirements of the Notice. The plan also contains the information required to file the Declaration of Preparation referred to in Section 9, and has the capacity to generate the information required to file the Declaration of Implementation referred to in Section 10 and the Interim Progress Reports referred to in Section 12 of the Notice.

8. Requirement to keep plan

Gerdau AmeriSteel will keep a copy of its P2 Plan(s) in its Canadian facilities in relation to which the Plan has been prepared. Where a single plan is prepared for more than one facility, a single copy will be kept at each location.

9. Declaration of Preparation

By July 27, 2008, Gerdau AmeriSteel will file to the Minister a written *Declaration that a Pollution Prevention Plan Has Been Prepared and Is Being Implemented in respect of Mercury Releases from Mercury Switches in End-of-Life Vehicles Processed by Steel Mills*, using the form provided in the Notice. Where Gerdau AmeriSteel has prepared a single plan for several facilities, a separate Declaration will be filed for each facility.

10. Declaration of Implementation

Within thirty days after the completion of the implementation of the plan, Gerdau AmeriSteel will file to the Minister a written *Declaration that a Pollution Prevention Plan Has Been Implemented in respect of Mercury Releases from Mercury Switches in End-of-Life Vehicles Processed by Steel Mills*, using the form provided in the Notice. Where Gerdau AmeriSteel has prepared a single plan for several facilities, a separate Declaration of Preparation will be filed for each facility.

11. Filing of amended Declarations

Where Gerdau AmeriSteel has filed a Declaration of Preparation or Implementation, referred to in Sections 9 and 10, and the Declaration contains information that at any time after the filing, has become false or misleading, Gerdau AmeriSteel will file an amended Declaration to the Minister within 30 days after the time that the information became false or misleading, using the appropriate form referred to in Section 9 or 10.

12. Interim Progress Reports

Subject to the dates below, Gerdau AmeriSteel will file to the Minister, on or before each of the dates below, a written *Interim Progress Report in respect of Mercury Releases from Mercury Switches in End-of-Life Vehicles Processed by Steel Mills*, using the form that the Minister provides and that contains the information set out in Schedule 4 of the Notice. If a Declaration of Implementation is submitted before an Interim Progress report is due, the requirement to submit the Interim Progress report is nullified.

- Interim Progress Report No. 1 – deadline: January 12, 2009
- Interim Progress Report No. 2 – deadline: January 12, 2010

13. Use of a Plan Prepared or Implemented for Another Purpose

Gerdau AmeriSteel will review and evaluate the P2 Plan on an annual basis by assessing the results of the *Switch Out Program* to recover mercury switches from end-of-life vehicles. In the case where information in the P2 Plan reported to Environment Canada does not meet all of the requirements of the Notice, Gerdau AmeriSteel will amend the plan so that it meets all of those requirements.

ANNEX A

National Mercury Switch Recovery Program

Scope of Work

The Clean Air Foundation (“Foundation”) is responsible for:

- (a) Establishing and maintaining a national automotive Mercury Switch recovery program in the 13 provinces/territories in Canada which includes the existing programs that are already operating in British Columbia, Alberta, Ontario, Québec, and Nova Scotia. The National Program includes the elements necessary to collect and retort, using a certified Retorter, the mercury from Mercury Switches and Mercury Switch Assemblies and track each transaction for the recovery of Mercury Switches and Mercury Switch Assemblies collected from End-of-Life vehicles from Vehicle Recyclers and Scrap Recycling Facilities within these provinces/territories;
- (b) Tracking and validating that the items collected:
 - (i) Are Mercury Switches or Mercury Switch Assemblies;
 - (ii) Are accompanied by waste handling manifests and paperwork as required under all applicable federal, provincial, territorial and or municipal/local law and regulation; and
 - (iii) Originate from vehicles recycled in participating provinces/territories;
- (c) Distributing training and technical assistance materials to Vehicle Recyclers and Scrap Recycling Facilities as agreed to under the scope of work. The Foundation will not undertake to develop any other training materials or services under the Program without written agreement of the Advisory Committee¹;
- (d) Securing all necessary approvals for packaging, the distribution of packaging and containers, size of the container, tracking, handling, and labeling required for the shipping and recycling of mercury-containing automotive components according to all applicable federal, provincial, territorial and municipal/local laws and regulations. The shipping costs will be accurately described and clearly provided by the Foundation to CSPA and CVMA;
- (e) Ensuring that it has reviewed the required supporting documentation and acceptable Certificates of Recycling of materials sent for recycling and that partners are delivering the National Program in accordance with the applicable laws, certificates of approvals, etc.;
- (f) Preparing and submitting the documentation to meet federal and provincial/municipal/local reporting requirements;

¹ “Advisory Committee” refers to a committee of representatives of the CVMA, the CSPA, and other organizations including the Canadian Association of Recycling Industries (“CARI”) and the Automotive Recyclers of Canada (“ARC”) whose functions are, among other things, to review training, technical, promotional or any other materials developed by the Foundation.

- (g) Providing to the CSPA and CVMA, monthly (for inbound shipments) for the first year, quarterly thereafter and annual Program reports (for all processed pellets) that will include at a minimum:
- (i) The total number of Mercury Switches recovered by type (i.e. convenience lighting or ABS switches);
 - (ii) The total net mass of mercury (pellets) recovered by type;
 - (iii) The total mass of mercury retorted from recovered pellets;
 - (iv) The name of Vehicle Recyclers and Scrap Recycling Facilities registered in the Program including:
 - Mailing address;
 - Shipping address;
 - Contact name;
 - Phone number/email address;
 - (v) The total number of vehicles processed by each Vehicle Recycler as voluntarily provided by Vehicle Recyclers or members of the Advisory Committee. Where actual numbers are unavailable, estimates or ranges are preferable to no data;
 - (vi) The number of switches collected by type by each Vehicle Recycler;
 - (vii) Other applicable information;
- (h) Ensuring that mercury from sources other than Mercury Switches or Mercury Switch Assemblies is not combined with that from the National Program;
- (i) Managing the collection of the Mercury Switches and Mercury Switch Assemblies, and recycling or retorting/reuse of the recovered mercury and retaining any contractors required for such purposes;
- (j) Notifying CSPA and CVMA promptly if the Foundation becomes aware that Mercury Switches or Mercury Switch Assemblies are comingled with significant amounts of hazardous or other wastes. In the event of such comingling, the Foundation shall use its best efforts to ensure the disposition of any such such wastes in a lawful and appropriate manner;
- (k) Notifying CSPA and CVMA promptly if the Foundation becomes aware that a Vehicle Recycler has shipped Mercury Switches or Mercury Switch Assemblies comingled with significant amounts of hazardous or other wastes and in such event, the Foundation shall determine the appropriate course of action, and decline to receive any further such shipments from the Vehicle Recycler in question;
- (l) Complying with all applicable federal, provincial, territorial and municipal/local laws related to waste or hazardous waste management and disposal requirements applicable to the Mercury Switches and Mercury Switch Assemblies or related materials in Foundation's possession in each and every province/territory;
- (m) Making the required modifications to the Existing *Switch Out* Program and ensuring that:
- (i) The website content is as agreed upon by CSPA and CVMA;
 - (ii) The Mercury Switches collected under the Agreement between the Foundation, CSPA and CVMA are retorted and not stored;

- (n) Ensuring that the Retorter will receive, count and verify to the Foundation the number of mercury pellets collected from each registered participating Vehicle Recycler in a timely fashion; and
- (o) Recommending to the Advisory Committee methods of improving Canadian Mercury Switch recovery in the provinces/territories.

ROLES OF THE ASSOCIATIONS

CVMA

- Co-funding the national switch recovery program
- Provide information, education and outreach regarding Mercury Switch removal, where possible
- Endorse the national switch recovery program
- Participate in the Advisory Committee for the Program
- Review training, technical, promotional or any materials developed by the Foundation

CSPA

- Co-funding the national switch recovery program
- Encourage supplier and supply chain to participate in the national switch recovery program
- Notify suppliers that their relevant steelmaking operations require scrap with Mercury Switches removed and adapt their respective purchasing practices in this regard
- Endorse the national switch recovery collection program
- Identify Vehicle Recyclers, shredders and crushers who should be participating in the Program, where possible
- Participate in the Advisory Committee for the Program
- Review training, technical, promotional or any materials developed by the Foundation