

# **BC LEAD-ACID BATTERY COLLECTION PROGRAM**

Provincial Program to assist with the Collection, Transportation and  
Recycling of Scrap Lead-Acid Batteries

## **PROGRAM SUMMARY**



Ministry of Environment  
Environmental Quality Branch  
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## 1.0 INTRODUCTION TO THE BCBCP (“the program”)

### 1.1 BACKGROUND

Lead-acid batteries are a big part of society. This is recognized by their use in the rapidly growing transportation, communication and electronic technologies sectors. The lead-acid battery has become one of the most extensively used consumer products of this century. Today, it is estimated that over 70% of the world’s lead production goes into lead-acid battery manufacturing. Lead-acid batteries help to power or start cars trucks, buses, boats, trains, recreational vehicles, electric wheel chairs, golf carts, backup power supplies for lighting, computers and buildings.

Lead is a toxic non-ferrous metal and must be managed in an environmentally friendly manner. In the early 1990s, local governments in BC identified scrap lead-acid batteries as an environmental hazard and posed a risk to human health. The concern at the time was with stockpiles of scrap batteries that had accumulated at landfills province wide. The stockpiling was attributed to insufficient processing capacity and low metal prices at the time which made it uneconomic to transport batteries for processing. It was estimated that 60% of all used batteries generated in BC were stockpiled or being disposed of in landfills or other sites.

In response to these concerns, the BC Ministry of Environment, Lands and Parks, now Ministry of Environment (“the ministry”) implemented in June, 1991, the BC Lead-Acid Battery Collection Program, (BCBCP; “the program”), the only program initiative of its type in Canada. The program was designed to help companies with the economic transport of scrap batteries from anywhere in the province for processing.

### 1.2 PROGRAM OBJECTIVES

The primary objectives of the program are:

- to recover at least 98% of all used batteries generated annually in BC;
- to ensure that used batteries generated anywhere in BC can be economically transported to a processor; and

It is estimated that virtually 100% of the used lead-acid batteries generated annually in the province are recovered given the right market conditions. Since 1991, the program has aided in the recycling of over 8 million BC generated battery units.

### 1.3 PROGRAM TERMINOLOGY

The following terminology is common to the program, and is used throughout this document:

**Battery:** Any lead acid battery weighing over 2 kg which may include but is not limited to automobile, motorcycle, recreation vehicle, marine and locomotive batteries.

**Battery Unit:** Program uses 17.2 kg or 38 pounds as the average battery weight. For reporting purposes 17.2kg or 38 pounds = one battery unit.

**Broker:** Any person or business registered in the program who collects used batteries from multiple sources and reassembles them into larger loads for transportation to other brokers or processors, and who may claim the transportation incentive.

**Generator:** Any person or business (such as retail stores, auto service stations, auto wreckers, scrap yards, etc.) who generate one or more used batteries.

**Manifest:** Special Waste Manifest and related Manifest Supplements required by law for the transportation of special waste. Used lead-acid batteries are a Special Waste under the ministry's Special Waste Regulation and must be manifested when transporting quantities of 1,000 kg and greater.

**Processor:** Any person or business who may be registered in the program and is engaged in the activities involved in breaking lead acid batteries, and recycling or selling the battery constituents for recycling.<sup>1</sup>

**Transporter:** Any person or business who has obtained a Special Waste Transport Licence (transporting 1000kg and greater) from the ministry and engages in transporting bulk loads of used lead acid batteries.

## 2.0 PROGRAM OVERVIEW

### 2.1 GENERAL PROGRAM STRUCTURE

The Program is funded from revenue collected from a \$5 consumer levy established in 1990 under the Social Service Tax Act. The revenue is estimated by the Ministry of Finance and transferred to the Sustainable Environment Fund (SEF). The SEF Act allows the ministry to make budget appropriations to help fund environmental protection, conservation and enhancement initiatives. The establishment of the BC Lead Acid Battery Collection Program in June 1991 was a SEF initiative.

Companies registered with the Battery Program are eligible to apply for the Program's Transportation Incentive Payments (TIPs). TIP rates are set monthly by the ministry or contractor administrator for each of 15 designated provincial zones. A zone map is provided in Appendix A.

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<sup>1</sup> Lead-acid battery recycling can be a nearly closed loop system. The plastic casings are washed and pelletized for recycling, including the manufacture of new battery casings. The sulphuric acid is neutralized and/or used in industrial processes, and the lead is smelted and refined for use in new lead-acid batteries or other lead products.

## **2.2 TRANSPORTATION INCENTIVE PAYMENTS (TIPS)**

TIPs are intended to provide funding assistance to registered program participants for the collection and transportation of used batteries from a generator to an approved broker or processing facility.

### ***2.2.1 Purpose of TIPs***

The main purpose of TIPs is to provide an economic incentive to transport used batteries to a processor. TIPs are designed to compensate for lower used battery values that occur with the fluctuations of world market prices for lead. In other words, when lead prices are low, TIPs are high, and vice versa. This helps to ensure that used batteries are neither stockpiled nor improperly disposed of in the environment during low lead price periods, but rather are recovered and transported to a processor for recycling.

### ***2.2.2 Rate Setting Structure for TIPs***

TIPs are calculated using a model which incorporates:

- a market price for refined lead;
- cost allowances for the collection, handling and transportation of used batteries from 15 different geographic zones to the nearest approved processor or broker facility; and
- an average cost for processing used batteries.

The market value for lead is recorded daily from the London Metal Exchange (LME). Transportation incentive rates (\$/lb) for each of the 15 different zones in the province are then calculated on a monthly basis, using the previous months lowest LME rate. (Refer to Appendix A for a Map of the 15 TIP Rate Geographic Zones, and Appendix B for a sample print out of TIP rates for all zones.) TIPs are calculated by multiplying the weight of the used batteries shipped to the processor by the appropriate incentive rate for their zone of origin.

The date used to calculate claim payments is the date the batteries arrive at the consignee. This ensures that the scrap batteries have arrived at their destination prior to issuing a transportation incentive payment.

### ***2.2.3 Payment of TIPs***

Transportation Incentive Payments are paid only to brokers or processors that are registered and have signed an agreement as participants in the battery program. Brokers co-ordinate the collection of used batteries from generators throughout the province, reassemble the batteries into larger loads, and transport them to a processor. Processors usually accept used batteries onsite for recycling, and may also co-ordinate collection and transportation of used batteries throughout the province to their location.

## **2.3 PROCESSING FACILITIES**

The battery processing facilities in BC are K-C Recycling Ltd., located in Trail and Metalex Products Ltd. in Richmond. Out-of-province processors are also sometimes utilized if a one or both BC processing locations are shut down for maintenance.

Both operations are able to recycle the entire lead acid battery. Lead plates from the batteries is smelted down and reused to make new lead acid batteries. The sulphuric acid is used to make fertilizer products. The plastic is usually pelletized and sold for making various moulded plastic products. All products are traded on the open market which from time to time may fluctuate and effect flow and recycling of scrap lead-acid batteries.

## **2.4 TRANSPORTATION INCENTIVE APPLICATION (TIA)**

Participants claim for TIPs on a monthly basis through the submission of Transportation Incentive Applications to the ministry. There are a number of requirements that must be met before an incentive claim can be processed and receive approval for payment.

### ***2.4.1 Form B: Transportation Incentive Application - Broker/Processor***

Every TIA must be accompanied by a completed Form B. This form provides general contact information of the participant, a full summary of the manifested loads being claimed, a pre-calculated TIP, and a signed certification of the accuracy of the information being submitted.

### ***2.4.2 Special Waste Manifests***

Properly completed Special Waste manifests are required by law to accompany all used battery shipments of 1,000 kg or more. A photocopy of a fully completed Special Waste manifest must be supplied in the TIA for every load of batteries being claimed for TIPs. In addition to the Special Waste manifests, there are two Manifest Supplement forms to be used whenever multiple consignors and/or multiple loads are assembled into a single, larger load.

## **3.0 PROGRAM PERFORMANCE**

Since June 1991, Program expenditures have averaged \$751,000 per fiscal year, although the annual costs have ranged from a high of \$1.5 million to a low of \$50,000. The table below presents the annual Program costs and the related battery volumes handled by the Program.

<b>Fiscal</b>	<b>Battery Units Recycled</b>	<b>Program Incentives Paid</b>
1991-92 *(10 months)	589,362	\$639,408
1992-93	779,433	\$945,403
1993-94	747,120	\$1,486,829
1994-95	720,835	\$452,410
1995-96	668,716	\$361,725
1996-97	416,734	\$50,374
1997-98	520,374	\$520,618
1998-99	778,002	\$781,301
1999-00	799,055	\$1,118,500
2000-01	752,494	\$1,082,080
2001-02	534,162	\$604,279
2002-03	636,823	\$974,463
<b>Program Total</b>	<b>7,943,110</b>	<b>\$9,017,390</b>

The market price of lead has remained high in recent years. As such, no program participants claims have been received and no transportation incentives have been paid. Funds from lead-acid battery levies continue to support existing and new product stewardship programs in British Columbia.

#### **4.0 REGISTRATION AS A PROGRAM PARTICIPANT**

There are a number of criteria that must be met prior to being approved as a registered participant in the battery program. These requirements are listed on two separate documents that must be completed and signed by the prospective participant. In order to be eligible to receive TIPs, all criteria must be met and registration approved.

**Form A: Registration - Broker/Processor** (Appendix B) provides general contact information of the company, the nature of that company's business with batteries (i.e. manufacturer, retailer, hauler) and a signed certification of the accuracy of the information being submitted.

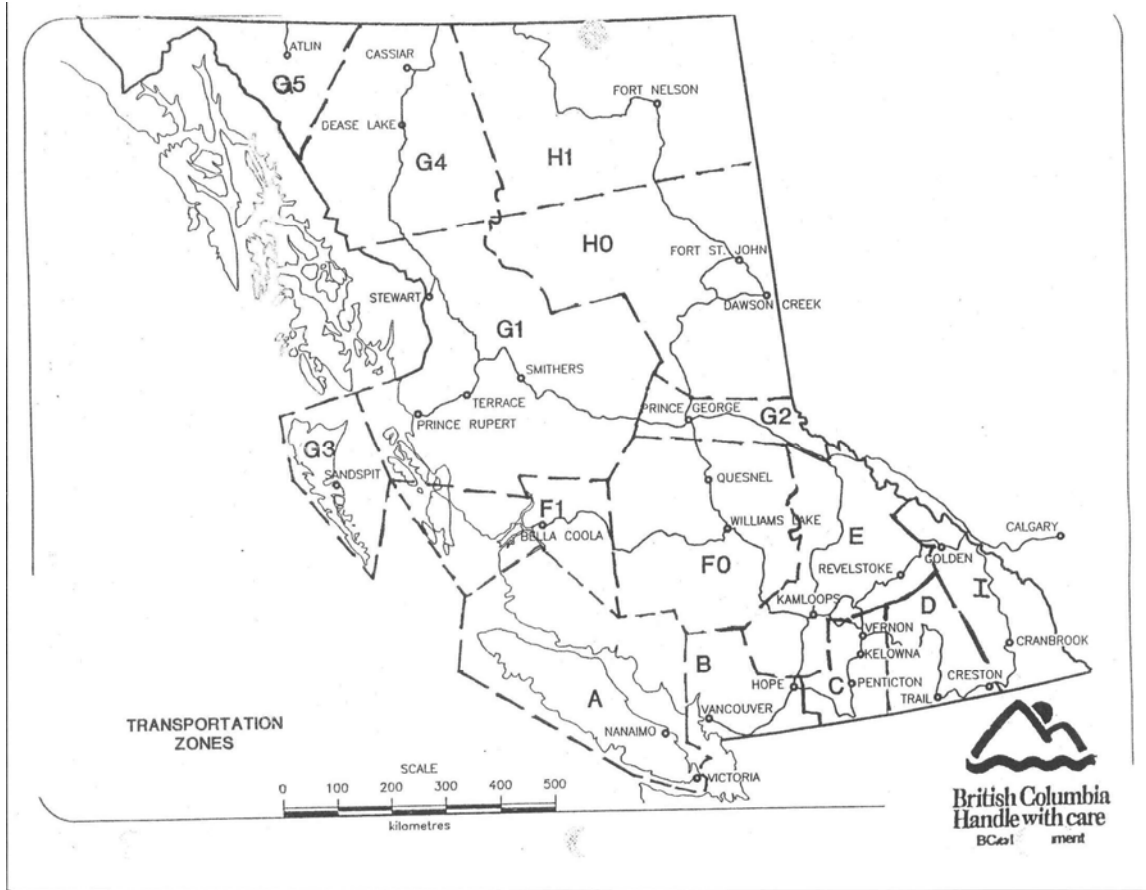
In addition to Form A, a **Letter of Agreement** (Appendix C) details a number of requirements that the potential participant must agree to prior to becoming registered. It should be noted that these conditions are subject to amendment at any time, and registered participants may be required to re-sign an updated Letter of Agreement should the ministry deem it necessary in order to continue to be eligible to receive TIPs.

#### **5.0 FURTHER INFORMATION**

For further information on the British Columbia Lead-Acid Battery Collection Program please contact:

Bob Paul  
Environmental Management Analyst  
Environmental Quality Branch  
Phone: (250) 356-5413  
Fax: (250) 356-7197  
Email: [Bob.Paul@gov.bc.ca](mailto:Bob.Paul@gov.bc.ca)

# APPENDIX A Battery Program Zone Map



**APPENDIX B**  
**Sample of Transportation Incentive Rates**

**Facsimile**

**To: British Columbia Lead Acid Battery Collection (BCLABC)  
Program Participants**

**Reference: April 2002 Transportation Incentive Zone Rates**

Based on March 2002 minimum spot market LME lead price of \$0.339/lb, the following transportation incentives are available for used lead acid batteries collected for recycling. These incentives are applicable to loads claimed by a registered processor/broker from the respective zones.

**TRANSPORTATION INCENTIVES – April 1 - 30, 2002:**

Zone A0 - \$0.035/lb  
Zone B0 - \$0.010/lb  
Zone C0 - \$0.012/lb  
Zone D0 - \$0.012/lb  
Zone E0 - \$0.029/lb  
Zone F0 - \$0.043/lb  
Zone F1 - \$0.055/lb  
Zone G1 - \$0.064/lb  
Zone G2 - \$0.040/lb  
Zone G3 - \$0.110/lb  
Zone G4 - \$0.097/lb  
Zone G5 - \$0.111/lb  
Zone H0 - \$0.075/lb  
Zone H1 - \$0.077/lb  
Zone I0 - \$0.019/lb

The geographic zones used in the BCLABC Program are primarily the Tourist Regions shown (by grey lines) on the British Columbia Road Map and Parks Guide. This map is available from BC Government Agents and BC Tourist Information Centres. These original zones, however, were further subdivided for use in the BCLABC Program. The BCLABC Program zone map is available upon request.

The ministry reserves the right to change the above rates in case of error after issuance. If you require clarification please contact the Environmental Quality Branch at 356-0535.