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November 25, 2009

Mr. Ron Driedger
Executive Director,
B.C. Used Oil Management Association
Suite 125, #9 45905 Yale Road
Chilliwack, B.C. V2P 8E6

Dear Ron:

Thank you for submitting the revised Used Oil, Oil Filters and Oil Containers Stewardship Plan on behalf of the British Columbia Used Oil Management Association (BCUOMA) members, dated November 2, 2009, as required under section 4 of the Recycling Regulation.

I have completed my review of the BCUOMA submission and hereby approve the Used Oil, Oil Filters and Oil Containers Stewardship Plan effective November 25, 2009. Please be advised that this approval does not extend to any materials or content contained in the plan that are extraneous to the requirements of section 5 of the Recycling Regulation.

I look forward to working with you to ensure the success of this program.

Sincerely,

David Ranson
Director, Environmental Management Act



BCUOMA

British Columbia Used Oil
Management Association

STEWARDSHIP PLAN

FOR

USED OIL, OIL FILTERS AND OIL CONTAINERS

Prepared and re-submitted by the BC Used Oil Management Association

On

November 2009

BCUOMA Stewardship Plan

1. RECYCLING REGULATION REQUIREMENTS

Section 17 (2) of the *Recycling Regulation* (Regulation) states the following:

A producer whose existing plan is deemed to be an approved plan under subsection (1) must submit a plan or amendments to the existing plan for approval in accordance with this regulation as follows:

(b) if the plan is in respect of products in the lubricating oil, empty oil container and oil filter product categories, within 3 years of this regulation coming into force.

This stewardship plan is submitted in accordance with the above regulation.

2. Overview

The British Columbia Used Oil Management Association (BCUOMA) is a not-for-profit Society formed under the British Columbia *Society Act* in 2003. BCUOMA's role is to perform on behalf of each producer (brand-owner) member of BCUOMA certain duties required under the Regulation. Effective September, 2009, there were 187 producer members of BCUOMA.

An eight member Board of Directors manages BCUOMA, with representatives from the manufacturing, retailing, local government and a non-governmental organization. An Executive Director reports to the Board and is responsible for operations management, financial management, communications, staff management and general administrative oversight. In order to streamline operations and minimize costs, BCUOMA shares an office in Edmonton with the Alberta Used Oil Management Association (AUOMA).

Producers, through networks of both company-owned and independently-owned retail and wholesale facilities, bring lubricating oil and filters into the province for sale or distribution. Retail facilities range from self-serve gas bars to mass merchandise marketers, quick lubes and automotive, farm, marine and commercial equipment dealers. Wholesale lubricating oil facilities comprise both branded bulk plants and independently owned and brand owner warehouses. Oil is sold in containers as small as less than a litre bottles, and as large as 205 litre drums, 1600 litre "lube cubes", 30,000 litre tank trucks and 50,000 litre rail cars. The Regulation applies only to the containers 30 litres or less in size, as required by the Regulation.

As required by regulation, BCUOMA has operated a province-wide collection and recycling program for used oil, oil filters and used oil containers since August 2003 for both the do-it-yourselfer market, as well as the commercial and industrial markets. This is similar to the

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tire stewardship program, but different from some of the other stewardship programs such as Product Care and the Medications Programs, which do not serve the commercial and industrial markets.

The BCUOMA program is funded by an Environmental Handling Charge (EHC). As of October 1, 2009, it is a condition of membership in BCUOMA that producer members remit to BCUOMA on a quarterly basis an EHC of \$.05/litre of oil, \$.10/litre of oil container, \$.55 for a filter less than 8 inches and \$1.25 if the filter is 8 inches or longer. Whether or not the producer passes on the EHC down the distribution chain to the wholesaler, retailer and consumer is up to the producer member.

3. Stakeholder Consultation

On May 8, 2007, stakeholders were sent an email letter advising them of the BCUOMA consultation process with a copy of a Discussion Document attached. Stakeholders included all Regional Districts, collectors and processors, producer members; Recycling Council of BC email list, SWANA BC Chapter mailing list, and all others who we were made aware had an interest in the consultation process.

The purpose of the Discussion Document, which was also posted on www.usedoilrecycling.com, was to be both informative as well as pose questions and stimulate debate and discussion on possible revisions to the existing stewardship plan. Meetings were held in Prince George, Kelowna, Nanaimo and Delta to enable stakeholders to provide comments on the Discussion Document. All comments provided at these meetings were recorded. In addition, written comments were received from stakeholders via email, fax and through the mail.

All of the comments received were summarized in a Comments Document that was posted on www.usedoilrecycling.com. Following this, the issues were summarized in a document, with the proposed BCUOMA response to the issues. This document was submitted to the Ministry of Environment in mid-October and discussed with the Ministry in early November, 2007. A copy of this document is included with the Stewardship Plan.

4. Collection System

The used oil, oil filters and oil containers are regularly picked up from over 4,000 generators across British Columbia by BCUOMA Registered Collectors (collectors). BCUOMA pays the Collectors Return Incentives (RIs) twice a month, provided the collector has supplied BCUOMA with the required supporting information, and has shipped the collected materials to a BCUOMA Registered Processor (processor) for an approved end use. For an approved

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end use to be eligible, the end use must be environmentally sound and be substantially in compliance with environmental requirements.

The amount of the RIs vary depending upon in which zone of the province the used oil materials are generated. The more remote the area of the province, the higher the RI that is paid to the collector to pick up the used oil, oil filters and oil containers. Since everyone pays the same EHC for the purchase of oil, oil filters and oil containers, the intent of the program is that people living in the populated south-west area of the province help support the collection and recycling in most of the rest of the province. In general, the RIs are set high enough that under most market conditions there is a payment made by the collectors to the generators of a portion of the RI for their used oil materials. However, volume, quality, amount of competition and location are all determining factors as to how much, if any of the RI, is passed on to the generator from the collector.

Table 1

ZONE	USED OIL (\$/litre)	USED OIL FILTERS (\$/kg)	USED OIL CONTAINERS (\$/kg)
1	0.05	0.68	1.19
2	0.09	0.76	1.46
3	0.11	0.94	1.46
4	0.08	0.74	1.37
5	0.16	1.19	1.67
6	0.13	0.90	1.50
7	0.08	0.74	1.37
8	0.11	0.94	1.46
9	0.11	0.94	1.67
10	0.16	1.19	1.67
11	0.27	1.50	5.40

Table 1 above shows how the RI paid for oil, filters and oil containers varies significantly from one zone to the next. As shown on the Zone Map below, for Zone 11 (Queen Charlotte Islands) about \$6.00 is paid to the Registered Collector to pick up an empty 20 litre oil pail.

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ZONE MAP OF BRITISH COLUMBIA



The purpose of Table 2 below is to compare the quantities of used oil, oil filters and oil containers coming from each of the 11 zones of the province for the years 2005 to 2008. The litres of oil are expressed in millions and the kg of oil filters and oil containers are also expressed in millions.

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TABLE 2

Zone	1	2	3	4	5	6	7	8	9	10	11
Oil 08 (L)	21.76	2.51	3.40	8.25	1.45	2.67	4.47	2.70	1.23	0.45	0.01
Oil 08 (%)	44.5	5.13	6.96	16.87	2.97	5.46	9.14	5.51	2.52	0.93	0.01
Oil 07 (L)	21.71	2.51	3.35	7.97	1.51	2.49	4.69	2.98	1.36	0.45	0.00
Oil 07 (%)	44.3	5.12	6.84	16.25	3.07	5.07	9.56	6.09	2.78	0.92	0.00
Oil 06 (L)	21.42	2.46	3.17	7.52	1.42	3.00	4.61	2.89	1.21	4.35	0.00
Oil 06 (%)	44.48	5.18	6.58	15.62	2.94	6.23	9.56	5.99	2.51	0.90	0.00
Oil 05 (L)	21.74	2.25	2.79	7.08	1.13	2.88	4.71	2.62	1.41	0.27	0.01
Oil 05 (%)	46.36	4.81	5.95	15.10	2.40	6.14	10.05	5.58	3.02	0.57	0.02
Filter 08kg	2.05	0.217	0.161	0.754	0.056	0.241	0.423	0.228	0.113	0.030	.0002
Filter 08%	47.91	5.09	3.76	17.68	1.30	5.65	9.91	5.34	2.65	0.71	0.01
Filter 07kg	2.005	0.191	0.127	0.570	0.034	0.207	0.454	0.245	0.105	0.022	0.00
Filter 07%	50.64	4.82	3.20	14.39	0.85	5.23	11.47	6.19	2.66	0.56	0.00
Filter 06kg	1.854	0.201	0.157	0.628	0.054	0.226	0.425	0.240	0.110	0.015	0.004
Filter 06%	47.36	5.16	4.01	16.04	1.39	5.76	10.84	6.13	2.82	0.38	0.11
Filter 05kg	1.996	0.239	0.170	0.685	0.053	0.281	0.448	0.220	0.119	0.016	0.000
Filter 05%	47.23	5.65	4.02	16.20	1.26	6.64	10.59	5.20	2.81	0.39	0.00
Cont 08 kg	0.678	0.108	0.074	0.276	0.010	0.081	0.110	0.081	0.040	0.007	0.003
Cont 08%	46.20	7.33	5.04	18.79	0.70	5.48	7.46	5.48	2.77	0.49	0.23
Cont 07 kg	0.655	0.110	0.069	0.218	0.012	0.081	0.116	0.079	0.38	0.006	0.002
Cont 07 %	47.25	7.92	5.00	15.73	0.85	0.583	0.839	0.570	0.272	0.45	0.16
Cont 06 kg	0.574	0.113	0.074	0.176	0.017	0.063	0.115	0.077	0.44	0.005	0.002
Cont 06 %	45.46	8.97	5.87	13.98	1.36	5.01	9.15	6.13	3.51	0.42	0.13
Cont 05 kg	0.548	0.120	0.065	0.165	0.017	0.068	0.098	0.073	0.030	0.004	0.004
Cont 05 %	45.99	10.07	5.43	13.85	1.45	5.70	8.25	6.12	2.48	0.37	0.31

BCUOMA registers the collectors and processors before they are eligible to receive RIs. Under the *Hazardous Waste Regulation*, used oil and oil filters are considered a hazardous waste. As well, the oil containers often contain a certain amount of new oil, and measures are required to ensure the proper equipment and vehicles are used to pick them up. As a

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result, it is important that any collectors and processors handling used oil materials are doing so in compliance with the required environmental standards.

BCUOMA requires as a condition of registration, and every two years thereafter, that each collector must engage an independent third party qualified professional to conduct an environmental audit of their operations, and state in a Letter of Regulatory Compliance that the operation is in substantial compliance with all applicable provincial and federal environmental legislation and regulations. In addition, the collector and processor must submit a current Business Licence. If either of these two conditions is not met, BCUOMA will not register the collector or processor.

Of the over 4,000 generators in the province, about 500 of them are return collection facilities for the do-it-yourselfer to take back small quantities of used oil materials at no cost. The return collection facilities list can be accessed on www.usedoilrecycling.com or by calling the Recycling Council of BC toll free hotline number.

Most of the province is well served with return collection facilities for the do-it-yourselfer to return their small quantities of used oil materials at no charge. Of the return collection facilities, there are approximately 37 sites that are either run by local government or not-for-profit groups at their landfill sites, transfer stations or recycling centers. All of the Canadian Tire stores, Mr. Lube Stores, and many other commercial automotive service centers are included in the locations available to the do-it-yourselfer to take back their used oil materials.

In the 2003 approved stewardship plan, it was stated that a minimum of 100 collection facilities will be established and operational by the end of December 2003, and after the first year of operation there will be a minimum of 200 collection facilities. BCUOMA has exceeded that number by over 300 collection facilities. BCUOMA would like to insure that a target of at least 500 return collection facilities be maintained.

However, there are a few remote areas of the province where coverage could be improved. In most of these remote areas, there are few automotive service centers that sell oil or service vehicles. This has been the source of concern by some local governments.

As a result, BCUOMA recently implemented a financial assistance program for local governments to assist them in the purchase of an oil tank or other relevant infrastructure for the collection of the used oil materials. To this point, just under \$60,000 has been paid out to 4 different local governments for the purchase of double-walled oil storage tanks and Ultra Hard Top Containers for storing filters and oil containers. To ensure that Local Government needs are considered and addressed, BCUOMA has a Local Government representative, appointed by the Union of BC Municipalities, on its Board of Directors.

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BCUOMA will continue to work with the other BC Stewards and the Local Government Stewardship Council to identify concerns about under serviced areas, communications, and reporting on performance through waste composition studies.

5. Recovery Rates

Prior to the commencement of the BCUOMA program in 2003, it was estimated that the recovery rate for used oil, oil filters and oil containers was 60%, 18% and 12% respectively. In 2008, the recovery rates for used oil, oil filters and oil containers had risen to 72.5%, 98.1% and 73.1% respectively.

a. Used Oil

For used oil in 2008, it is estimated that 30.1% of the oil sold is consumed-in-use and not available for collection. This number was determined by a Consumed-In-Use Study that was undertaken on behalf of BCUOMA by a consultant in 2005, and the report is available on www.usedoilrecycling.com. In 2008, 96.59 million litres of oil was sold and based on the above report, 67.5 million litres was considered available for collection. Of the 67.5 million litres, 48.9 million litres was collected and recycled through the BCUOMA system.

In order to better determine where the unaccounted for oil was going, BCUOMA engaged a consultant to make that determination. In April 2006, an Unaccounted Used Oil Study was released that gave estimated uses of 18.75 million litres. A copy of this report is posted on www.usedoilrecycling.com.

Approximately 15.5 million litres of this used oil was estimated to be used for burner fuel for used oil furnaces, other energy uses in industrial facilities and ships, explosives manufacturing and other industrial uses. A total of 3.25 million litres was estimated to be soaked in floor dry and rags, road oiling, weed control, fire starter, ground pits and illegal dumping by do-it-yourselfers and others.

Based on the above information, there does not appear to be much potential to increase the recovery rate a significant amount above the 72.5% for 2008 unless there is a reduction in the amount of used oil used for used oil furnaces and other alternative uses. Only about 24% of the oil sold in the province is for passenger car and light trucks, and of that amount only about 25% of motorists change their own oil. Therefore the amount of used oil generated by the do-it-yourselfer market that is available for collection is about 3.6 million litres per year.

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BCUOMA will update the Consumed-In-Use Study and the Unaccounted for Used Oil Study within the next 5 year period to track any changes that may have occurred since the studies were last done. It is planned to update these two studies every five years thereafter.

b. Used Oil Filters

In 2008, 5.77 million oil filters were sold and potentially all of them are available for collection. Of those 5.77 million filters, an estimated 5.66 million filters were collected and recycled for a recovery rate of 98.1.1%. This recovery rate was determined based on a filter study completed in the fall of 2007. It showed that on average there were more filters in a 205 litre drum than was previously assumed from the Alberta Used Oil Management Association estimates. The recovery rate in 2008 was unusually high due to decreased sales in 2008, and recovery of filters in 2008 from the higher amount of filters sold in 2007.

As with used oil, the biggest user of oil filters in British Columbia is the industrial user. It is considered that the biggest contributing factor to increasing the recovery rate for oil filters in future years is for local governments to put a ban on filters going to disposal. Each filter that is incorrectly discarded to the landfill, contains about 1/4 of a litre of oil.

c. Used Oil Containers

Since the inception of the program, the recovery rate has improved significantly from 42.6% in 2004, 51.2% in 2005, 57.2% in 2006, 63.3% in 2007 to 73.1% in 2008. It is expected that there will be further increases in the recovery rate in the next several years especially if more local governments place bans on oil containers going to landfills.

One additional thing that BCUOMA has done to encourage the recycling of used oil containers is to pay an Infrastructure Development Incentive (IDI) of \$0.30/kg to Processors of plastic oil containers. This payment recognizes the extra cost and challenge in separating the oil from the plastic.

During 2008, a study of the oil container program was undertaken. Of the two categories of plastic collected, approximately 30% of the overall weight of plastic is comprised of 20 litre pails, and the remaining 70% of weight consists of oil containers ranging in sizes from 5 litres down to less than 0.50 litres, which are collected and shipped in large, clear plastic bags. The consulting company which performed the oil container study surveyed 1,000 of these bags, located at two of BCUOMA's larger plastic processors.

It was determined that the average weight of the bags was 6.4 kg, of which 4.6 kg (72%) was composed of eligible oil containers; nearly all of the remaining 28% was composed of

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other automotive fluid containers, such as antifreeze, windshield washer and oil/fuel additive containers. These other “ineligible” plastic containers are naturally used in conjunction with the eligible containers and are found at the same generator sites. Rather than force the generators to sort these plastic bottles out of the clear plastic bags, the preferred option was to approach the Ministry of Environment to amend the *Recycling Regulation* and reclassify these containers as eligible, making them a part of the BCUOMA program.

The oil container study also reported the findings of the use of a clear plastic PET container. Well over 95% of oil containers are made from HDPE plastic. As a result, the PET containers must be hand sorted and recycled separately, at an additional cost to the recycler. The company using the PET containers has been notified, and a further review will be undertaken, together with the other Used Oil Management Associations, to determine if an additional EHC levy could be assessed against these containers to reflect the true cost of recycling them.

For each oil container that is incorrectly discarded to a landfill, there is approximately 9% (by weight) of oil still remaining in the container.

6. Consumer Awareness

The goal of the consumer awareness program is to try to educate motorists and the over 4,000 generators of used oil materials. About a quarter of the motorists in British Columbia change their own oil, and many more motorists may have occasion to top up their engine with motor oil and have an oil container to recycle. Because those same motorists and generators also generate other products and packaging, the goal of the BCUOMA program is to try and partner with as many other stewards as possible to more effectively spread the message as to how their used materials can be collected and recycled.

It is expected that the key elements of the consumer awareness program for 2010 to 2014 will continue to be:

- a. A partnership with the Recycling Council of BC for the Recycling Hotline, and a website to inform the do-it-yourselfers of the nearest location to take back their used oil materials.
- b. A Summer Ambassador Program where a team of two young people in a hybrid vehicle tour the province to meet with return collection facilities, local governments and the general public. The purpose of their visits is to ensure that the return collection facilities are up-to-date with information and signs, and that local

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governments and the general public are informed about the program. In 2008 BCUOMA partnered with the Medications Group to hand out their brochures and information when meeting with local governments and the general public.

As more stewardship programs continue to be developed, there will be an even greater need for stewards to work together. To meet that need, BCUOMA would like to work with as many stewards as possible in the next several years to develop a common brochure and one website URL for the public to access all the different sources of information for stewardship programs.

- c. BCUOMA will continue to consider using radio ads as a means of reaching the do-it-yourselfer and the smaller generators of used oil materials who still are not fully aware of how they can have their used oil materials collected and recycled in a responsible way. An important message for British Columbians is to return their uncontaminated used oil materials during regular business hours, since one litre of spilled used oil can contaminate a million litres of drinking water.
- d. BCUOMA will continue to use brochures, municipal recycling calendars, table top displays, other visual displays and relevant public hand-outs as a means of spreading the message to the public on used oil material recycling. In this messaging, BCUOMA emphasizes that the EHC is not a government tax. In communication with generators of used oil who charge oil change service fees that are incorrectly termed “environmental handling charges”, BCUOMA will continue to emphasize that if they do show these charges they should fairly represent the EHC that BCUOMA requires the producers to remit. This message is clearly shown on the BCUOMA website. Another message that will be emphasized is that used oil material recycling is an important element in dealing with climate change.

7. Program Performance

Each May, BCUOMA prepares a Business Plan that outlines its Vision, Mission, Mandate, Program Framework and its Objectives, Goals and Performance Measures. The Annual Business Plan is posted on www.usedoilrecycling.com.

The four key objectives of the Program are:

- a) Accountability to brand-owner members;
- b) Optimal recovery rates;
- c) Informed and participating end users; and
- d) Environmentally responsible management of used oil materials.

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For accountability to brand-owners, one of the goals is to maximize the flow through of EHCs to the payment of RIs and IDIs. This is regularly tracked and measured in the following way:

TABLE 3 – Administrative Costs as a Percentage of EHCs

YEAR	ADMINISTRATIVE COSTS AS A % OF EHCs
2008	4.67%
2009 (projected)	6.03%
2010 (projected)	4.58%
2011 (projected)	4.58%

TABLE 4 – Projected Recovery Rates for Used Oil Materials

Product	Year	Estimated Sales Millions	Recoverable Portion – Millions	Percentage Recovered	Quantity Recovered - Millions
Oil	2009	91.76	64.1	73.0	46.8
	2010	96.35	67.3	73.7	49.6
	2011	100.20	70.0	73.7	51.6
Filters (units)	2009	5.421	5.421	96.2	5.215
	2010	5.692	5.692	94.4	5.371
	2011	5.919	5.919	94.4	5.586
Containers (kgs)	2009	1.886	1.886	75.0	1.415
	2010	1.961	1.961	77.0	1.511
	2011	2.020	2.020	79.1	1.597

In late 2004, BCUOMA engaged Ipsos Reid to conduct 500 telephone interviews with householders in Vancouver, other areas of the Lower Mainland, the Victoria area, South Coast/Interior, North Coast/Interior and Southern Interior. The survey showed that 64% of British Columbians with vehicles always paid a business to change their oil, while 25% of the respondents always change their own oil. Of those who change their own oil, 84% reported that they recycle their used oil, 78% recycle their oil containers and 44% recycled their oil filters.

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BCUOMA's Communication Consultant has advised that with recent problems with phone solicitations and web spam mail, the public are increasingly reluctant to participate in phone surveys. As a result, BCUOMA will continue to work with local governments who conduct waste composition studies to determine the amount of used oil material waste that still goes to disposal. BCUOMA will consider financially contributing to waste composition studies that break out the amount of used oil materials in the waste stream. This may be the most accurate way of determining how effectively the used oil materials are being collected and recycled.

In addition, as outlined in Section 4 above, BCUOMA will continue to monitor the number of return collection facilities available for the do-it-yourselfer and keep it above the target of 500. For the commercial facilities that generate used oil materials, BCUOMA works to maintain a minimum of 2 registered collectors in almost every area of the province.

As outlined in Section 4 above, the system that BCUOMA uses to track the environmentally responsible management of used oil materials is to require that every second year each registered collector and processor conduct an environmental audit by an independent qualified auditor. The registration for the collector or processor is not approved unless the Letter of Regulatory Compliance signed by the independent auditor states that the operation is in substantial compliance with all pertinent government environmental requirements.

BCUOMA will require the registered Processors of used oil to report annually on the end uses of used oil, in one of the following categories; re-refining, pulp mills, cement plants, asphalt plants and other approved BCUOMA fuel uses. As in June 2009, this information will be reported to the Ministry annually.

In addition, within one year of Plan approval, BCUOMA will:

- report on the amount of used oil materials collected in each of the 11 zones of the province on a per capita basis, to better track the effectiveness of the program;
- report on the tonnes of GHG savings realized by the recycling of used oil, filters and oil containers; and
- cost in dollars per litre of oil and per kilogram of filters and oil containers recovered.

Subsequently, these reports will be integrated into future annual reports to the Ministry of Environment.

8. Dispute Resolution

BCUOMA does not have any signed contracts with collectors, processors or generators, including return collection facilities. However, BCUOMA will not pay RIs to collectors and processors unless they are registered with BCUOMA and have agreed in writing to abide by its requirements, including the Manual for Collectors & Processors, and the Incentive Program for Collectors and Processors. Both of these documents are posted on www.usedoilrecycling.com.

If there is a dispute between BCUOMA and a collector or processor, the BCUOMA Board is the final decision maker. If the matter is not resolved at that level, collectors or processors can use the normal commercial legal procedures. It is entirely voluntary if a return collection facility operates, and it is the collector that has the contract with the generator, including the return collection facilities.

BCUOMA is the only stewardship agency in British Columbia that has a local government representative and a member-at-large representative on its Board. This type of representative helps to provide the local government and not-for-profit group input directly at the Board level, including the resolution of any disputes or concerns by Collectors & Processors, Local Governments and Brand-owner members.

9. Product Life Cycle Management

a. Oil

There were 3.1 million litres less oil sold in the province in 2008 compared to 2007. The newer vehicles and industrial engines have a longer driving distance and/or time period between oil changes than in the past. In addition, it appears that the engines of today have been designed to leak much less oil. For motor vehicles that were made since 2000, it is estimated that only 5.3% of the oil is consumed in use. For older vehicles it is almost double that amount at 9.7%. The three main areas where consumed-in-use is high are in the railroad, natural gas and marine industries. These three industries alone consume almost one-half of the total consumed-in-use.

b. Oil Containers

For oil containers, the number sold has decreased from 2.187 million kg in 2007 to 2.006 million kg in 2008. In the last several years there has been a trend for oil companies to ship more of their oil in lube cubes, drums and by truck and rail, to the point where approximately 62% of the oil is shipped in bulk. Given that there are no EHCs on containers

larger than 30 litres, this may be a factor in encouraging oil companies to ship more of their oil in bulk. In addition, there is a cost saving in not having to pay for the cost of supplying and handling the bulky, messy oil containers.

c. Oil Filters

For oil filters, there has decrease from 6.241 million filters sold in 2007 to 5.767 million in 2007. This is likely due to the decreased industrial activity in the oil, gas and mining sectors as well as the general economic downturn. For many of the newer cars there is a trend to using smaller paper filters that take fewer resources to manufacture and cost less to ship and handle.

10. Pollution Prevention Hierarchy

a. Used Oil

One of the conditions of payment of RIs to collectors is that they only deliver the used oil, oil filters and oil containers to processors that sell them for approved end uses. For used oil, approved end uses include re-refining and using it as a fuel for pulp mills, cement kilns, asphalt plants and other uses that meet the intent of the *Hazardous Waste Regulation* or applicable government standards in other states or provinces, such as for mining explosives or exploration drilling.

In all cases, the oil must be analyzed in accordance with government-approved methods and shown to meet the required industry and/or government specifications. Application of used oil to any land for the purpose of road construction, repair or dust suppression is prohibited by the *Hazardous Waste Regulation*, and is not considered a BCUOMA approved use. In addition, there are no emission controls on used oil furnaces, and the operators in almost all cases do not analyze the used oil to ensure it meets Ministry standards. As a result, the use of used oil in oil-fired furnaces is not considered a BCUOMA approved end use.

Based on most life-cycle analysis studies around the world, re-refining and using the used oil as a fuel for industrial operations like cement kilns and pulp mills, is considered to be very similar. It was also found that in a few European countries that favored re-refining over fuel use had lower overall collection rates.

Currently, about 60% of the used oil generated in province is re-refined at the re-refineries in North Vancouver and Breslau, Ontario. The other 40% is mainly used as a fuel in pulp mills in Washington State and in asphalt plants in British Columbia and Alberta. The primary

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goals of the BCUOMA program in the next five years are to maximize the recovery of used oil, and to do it in a cost-effective and environmentally responsible manner.

b. Used Oil Containers

The plastic oil containers are processed at approved facilities in both British Columbia and Alberta. The main challenge in processing oil containers is separating the oil from the plastic. This is achieved by first shredding the containers, followed by centrifuging and washing the shredded plastic. Once a sufficient amount of oil has been removed from the shred, it can be pelletized to make new oil containers, drainage tile, parking curbs and other plastic products. The other option is to use the plastic shred to make items such as plastic lumber where some of the oil is still encased in the finished product and can't be leached out.

c. Used Oil Filters

Since used oil filters are considered a hazardous waste and are quite costly to crush for use in a steel mill, BCUOMA does not pay the collector the RI until either a steel mill or a metal broker have signed off that they have received the crushed oil filters. BCUOMA wants to avoid the situation where a processor will simply sign-off the shipment as received, have the collector receive the RI and then simply store the un-crushed filters.

If the processor sufficiently crushes the filters to the point where there is less than 3% oil by weight, and the Ministry of Environment no longer considers them a hazardous waste, BCUOMA considers sign-off by the metal broker as sufficient to warrant payment of the RI to the collector. However, if the Ministry hasn't granted the exemption under the *Hazardous Waste Regulation*, and the crushed filters are still considered a hazardous waste, BCUOMA won't pay the RI to the collector until the steel mill has signed off as having received the crushed filters.

Most of the filters are mainly constructed of steel, and are highly recyclable by the steel mills into reinforcing steel, nails and other steel products. However, a filter study undertaken in 2007 has shown that about 8% of the filters recovered are made of paper. For most of the filter processors, they are still able to mix most of the paper filters in with the crushed steel filters. However, a major Lower Mainland filter processor has too many paper filters so that they have to be hand-sorted, crushed separately to less than 3% oil by weight and shipped to a waste to energy facility as a fuel source.

There are a small percentage of paper filters from a few processors with plastic inner tubes which can't be mixed in with the steel filters. These filters are currently being sent to a

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secure landfill in Alberta. BCUOMA will work with these filter processors to determine if they can be used as an energy source like some processors are currently doing.

An outline, similar to what has been presented in 10 above, will be inserted on BCUOMA's website to better inform British Columbians on the many uses of the recycled used oil materials.

Re-submitted by
British Columbia Used Oil Management Association
www.usedoilrecyclig.com

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