As waste fuels and waste oils are different substances, each requires separate and specific disposal techniques. The following paragraphs describe the collection, storage and disposal options for both waste fuels and waste oils.

Waste Fuel

Collection

Waste fuel pertains to fuels such as gasoline and diesel. These fuels should be collected and stored separately in dedicated containers. Fuels that are still usable (i.e. gasoline that has not gone stale) may be used in onsite vehicles. Stale gasoline cannot be used in vehicles as it may cause damage and must be handled and disposed of as a hazardous waste (British Columbia Ministry of Environment, 2008). Stale gasoline can often be identified by a bad smell caused by degradation of the fuel.

Gasoline can be dangerous as it is flammable and may catch on fire or explode if it comes into contact with a spark or ignition source. Gas should be removed in a well ventilated area and stored outside of the dismantling area. Remove gas using a suction system specifically designed for the removal of gasoline. Do not use a plastic hand pump as this may cause a build up of static electrical charge and may lead to fire or explosion. Do not puncture holes in a tank to drain gasoline or diesel; this may result in leaks or spills (National Code of Practice, 2008 and British Columbia Ministry of Environment, 2008).

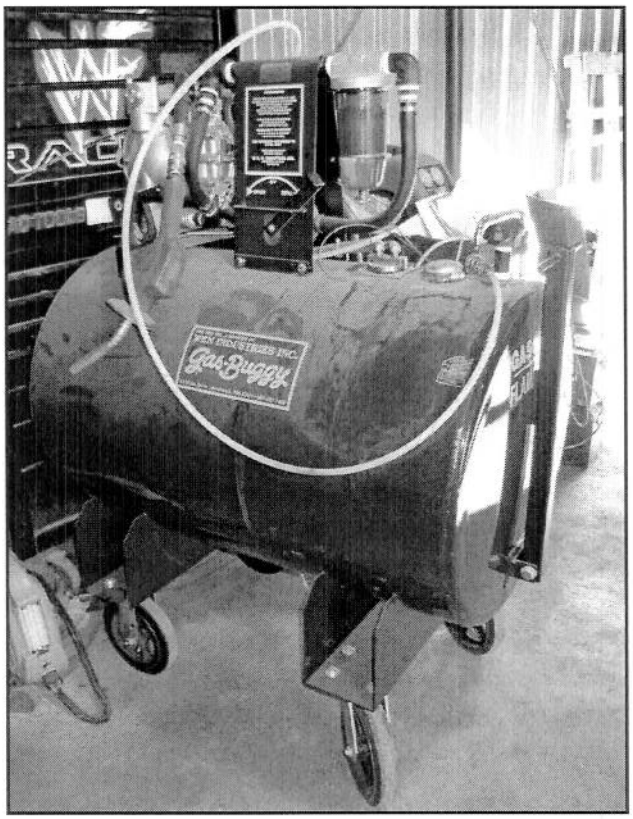

Figure 11. Example of Gasoline Collection System

Stockpiling

Usable fuel may be stored in storage containers approved for the specified type of fuel and reused in onsite vehicles. These containers must be kept in a well ventilated area outside of the dismantling area to prohibit fume build-up and decrease the risk of fire. Stale gasoline and waste fuel must also be stored in approved containers in a well ventilated area outside of the dismantling area and must be labelled as waste/unusable fuels. Secondary containment should be provided. If stored outdoors, these containers should be protected from rain and snow. Contact the Fire Marshall for approval of fuel and waste fuel storage locations.

Disposal

Usable fuel should be reused where possible to decrease the amount of waste fuels to be transported offsite. This will decrease shipping and disposal costs. Waste fuels and stale gasoline must be collected and transported off site. The most effective method to transporting out of the community will be by annual barge. These fuels will need to be transported off site by a licensed Transportation of Dangerous Goods shipper. Arrangements will have to be made with the barge company to complete the appropriate manifests and have the approved packaging for transportation offsite. Records of manifests must be kept onsite for a minimum of two years.

Waste Oils and Fluids

Collection

Waste oils found in ELVs include: engine oil; transmission, power steering, and brake fluids; and differential oil. According to the National Code of Practice (2008), brake, transmission and power steering fluids may be mixed with waste oil. However, based on information from Yukon Environment (2005) and Missouri Department of Natural Resources (1997), brake fluid may sometimes be included, however, due to chlorinated compounds that may be found in some brake fluids, it is recommended that brake fluid not be mixed with waste oils.

It is recommended that brake fluid be collected with a dedicated pump and stored separately from other oils. Other oils i.e. engine, transmission, power steering and differential can be collected using a common pump and stored in a mixed oil container. Brake fluid should be tested when the brake fluid storage container is full to determine chlorinated content and end disposal.

Waste oils can be collected by draining from the vehicle components or by using a hand pump. When draining, use a drip pan to collect the fluids. Once all the fluid has been drained from the component, replace the drain plug, empty the fluid into the designated and marked storage container. For differentials, replace all removed bolts to prevent leakage.

Figure 12. Using Drip Pans to Catch Draining Fluids

When using a hand pump to remove fluids, ensure that each fluid (aside from oils such as engine, transmission, power steering and differential) has a dedicated hand pump. Do not use the same hand pumps for brake fluid, antifreeze, windshield washer fluid, etc. Once all fluid has been drained, empty the container of each pump directly into the designated storage container.

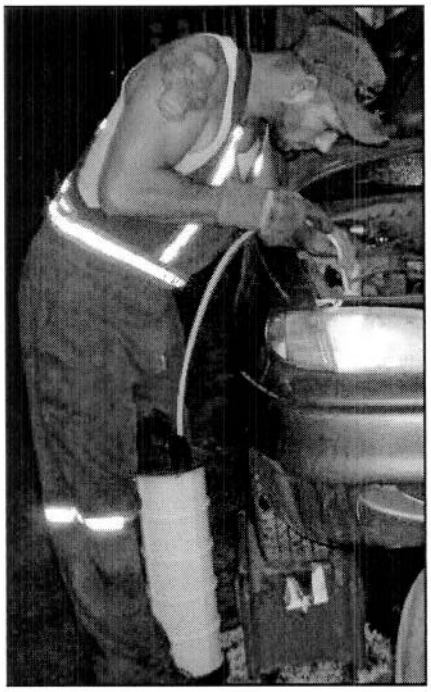

Figure 13. Using Hand Pump

Stockpiling

Waste oil may be stored in steel drums or plastic containers. Both types of containers must have proper fitting lids. These containers may be kept in the dismantling area within a secondary containment unit. According to the British Columbia Ministry of Environment (2008), steel drums are recommended over plastic containers as plastic tends to degrade over time and could potentially cause a leak or spill.

Figure 14. Example of Plastic Container Used for Storage of Waste Oils

Disposal

Waste oil can be disposed of in different ways, however the most appropriate disposal methods for Nunavut include transportation to a recycling facility or used as fuel in a waste oil furnace. Transporting to a recycling facility will involve shipping waste oil out of the community on the annual barge. Hazardous waste/recyclable manifests will need to be completed.

Use of waste oil as a fuel in an approved furnace will eliminate the need to ship waste oil to a southern recycling facility. However, before burning waste oil, the composition of the waste oil must be known (ie. what type of waste oil is it, what other waste oils or waste fluids are mixed in with the waste oil) and it must be determined that the waste oil is safe for use in an approved waste oil furnace. In the event that a waste oil furnace is not available, some waste oils may be burned on-site in an approved incinerator. This task would involve contracting out to a contractor trained in burning and disposing of waste oils. The contractor must be knowledgeable about what types of waste oils may be burned in the incinerator. The contractor would bring in an approved incinerator to Hall Beach and burn the waste oils appropriate for burning on-site. Any unknown waste oils or fuels will have to be tested by an approved laboratory to determine their composition prior to incineration or shipment out of the hamlet. Other waste oils not suitable for use in a waste oil furnace or burning in the incinerator will be properly packaged for shipment to an approved disposal facility. The Site Operator should contact the Transportation of Dangerous Goods Northern Regional Office at 1-888-463-0521 to ensure that all waste oils are properly crated and have the appropriate labels prior to shipping. Waste must only be transported to an approved user/recycler of waste oil.

All barrels containing waste oils or fuels and all barrels that have not been properly cleaned, must be stored in a designated area at the solid waste site. Currently, the Hamlet stores waste oil outside of the Hamlet garage and behind the housing workshop. These waste oil barrels should be moved to a designated area at the solid waste site.

For further information refer to the *Used Oil and Waste Fuel Regulations Plain Language Guide* located on the Department of Environment and Natural Resources, Government of the Northwest Territories website at http://www.enr.gov.nt.ca/_live/pages/wpPages/publications.aspx.

3.1.6.3 *Brake Fluid*

Collection

Brake fluid may be collected using a hand pump as described for the collection of waste oils. The fluid should then be disposed of into a container designated specifically for brake fluid.

Depending on the end disposal methods of the collected waste oil, brake fluid should not be mixed with waste oil as it may contain chlorinated compounds. Chlorinated compounds when burned in a waste oil burner may cause smoke, fumes or problems with the waste oil burner (Yukon Environment, 2005 and

Missouri Department of Natural Resources, 1997). According to the Missouri Department of Natural Resources (1997), brake fluids may contain chlorinated compounds if:

1. An older brake fluid manufactured using chlorinated compounds was used; or,
2. It had become contaminated from brake cleaners that contain chlorinated compounds.

To be sure, the solid waste facility operator may want to use a test kit to determine whether or not the used brake fluid contains chlorinated compounds. The facility operator will have to contact the waste oil recycler/disposal company to determine if they will accept waste oil mixed with brake fluid that may contain chlorinated compounds (Missouri Department of Natural Resources, 1997).

Stockpiling

Brake fluid may be stockpiled in approved clearly labelled containers until it can be shipped out by barge. Waste brake fluid should be kept separate from other waste oils unless the solid waste facility operator has contacted the recycling/disposal company and has confirmed with them that adding brake fluid to the waste oil is acceptable.

Disposal

Waste brake fluid must be shipped out of the community by annual barge by a licensed Transportation of Dangerous Goods shipper. Brake fluid must be sent to a proper disposal/recycling facility and arrangements with the facility to accept brake fluid must be made prior to shipping.

3.1.6.4 *Waste Solvents*

Waste solvents are liquids that are generally derived from petroleum or alcohol based products and may be flammable or toxic (Environmental Protection Service, Department of Sustainable Development, Government of Nunavut, 2002). They must be handled only by properly trained personnel. For further information please refer to the *Environmental Guideline for Waste Solvents* located on the Department of Environment, Government of Nunavut website at:
http://env.gov.nu.ca/node/82#Guideline%20Documents.

3.1.6.5 *Antifreeze*

Antifreeze is a liquid used to lower the freezing point of water. It must be handled and stored with care as it is a toxic compound.

Collection

Antifreeze may be collected by using a hand pump to remove it from the ELV. It must be stored in a clearly marked steel drum or plastic container and must not be mixed with other waste fluids such as oils, windshield washer fluid, brake fluid, etc. Water contaminated by antifreeze must not be put through an oil/water separator as a method of treatment. Oil/water separators do not remove antifreeze from water

and if discharged through an oil/water separator the antifreeze may be released into the environment (British Columbia Ministry of Environment, 2008).

Stockpiling

Waste antifreeze must be stored in an appropriate container with a secure lid. Store containers within a secondary containment area that does not have a drain, thereby preventing the release of antifreeze into the environment. Antifreeze that is reusable can be used within other operating vehicles (British Columbia Ministry of Environment, 2008). Unusable antifreeze must be kept separate and stored until it can be shipped out of the community.

Disposal

Antifreeze must not be disposed into the environment as it is toxic to humans and animals and may contaminate the soil and water. It must be stockpiled until it can be shipped to a proper disposal facility. Transportation and manifest records of shipments of waste antifreeze must be kept onsite for a minimum of two years (British Columbia Ministry of Environment, 2008).

Antifreeze must not be disposed of in sewage lagoons as it may kill the bacteria responsible for the sewage treatment process (Environmental Protection Service, Department of Sustainable Development, Government of Nunavut, 2002). For further information please refer to the *Environmental Guideline for Waste Antifreeze* located on the Department of Environment, Government of Nunavut website at: http://env.gov.nu.ca/node/82#Guideline%20Documents.

3.1.6.6 *Windshield Washer Fluid*

Collection

Windshield washer fluid is a toxic substance that must be drained from all ELVs prior to crushing. Remove washer fluid from ELVs by using a dedicated hand pump and draining the fluid into a dedicated container. Do not mix with other fluids such as engine oil, antifreeze, brake fluid, transmission fluid, etc. Sell or give away reusable washer fluid for use in other operational vehicles.

Stockpiling

Washer fluid must be stored in an appropriate container with a secure lid. Store containers within a secondary containment, area that does not have a drain in order to prevent the release of washer fluid into the environment. Most washer fluid is reusable and can be used within other operating vehicles (British Columbia Ministry of Environment, 2008). Unusable washer fluid must kept separate and stored until it can be shipped out of the community.

Disposal

Waste washer fluid must not be disposed into the environment as it is a toxic substance. It must be stockpiled until it can be shipped to a proper disposal facility. Transportation and manifest records of shipments of waste fluid must be kept onsite for a minimum of two years.

3.1.6.7 *Paint*

Waste paint and paint products may be considered hazardous materials depending on the chemical properties of the paint and products (Environmental Protection Service, Department of Sustainable Development, Government of Nunavut, 2002). Waste paint and paint products should be stored in designated hazardous waste storage berms away from other hazardous wastes. For further information refer to the *Environmental Guideline for Waste Paint* located on the Department of Environment, Government of Nunavut website at: http://env.gov.nu.ca/node/82#Guideline%20Documents.

3.1.6.8 *Mercury Thermometers and Switches*

There are two main sources of mercury that may be found in a municipal solid waste site, mercury switches found in appliances and mercury switches found in ELVs. Mercury is a toxic heavy metal that is used in vehicles and a number of household items such as freezers, washing machines, gas ranges, gas hot-water heaters, fluorescent lamps, etc. When these items are disposed of in a landfill, mercury may be released into the environment due to crushing of these items (Vermont Department of Environmental Conservation, Vermont Mercury Education & Reduction Campaign and Chittenden Solid Waste District, 2002). It is important that the parts of these appliances that contain mercury be removed prior to disposal in the landfill. The following paragraphs describe collection, storage and disposal for mercury found in both appliances and ELVs.

Mercury Switches – Appliances

Collection

Mercury switches may be found in a variety of appliances, generally those that have automatic shut-off features and/or convenience lighting. These appliances may include freezers, washing machines, gas ranges, gas hot water heaters, gas furnaces, sump pumps, etc. However, caution must be taken when identifying and retrieving switches from appliances. The Vermont Department of Environmental Conservation in conjunction with the Vermont Mercury Education & Reduction Campaign and Chittenden Solid Waste District have developed a manual titled *Household Appliance Mercury Switch Removal Manual*. A copy of this manual has been included as an appendix and can be found on the following website: http://www.mercvt.org/PDF/appman.pdf.

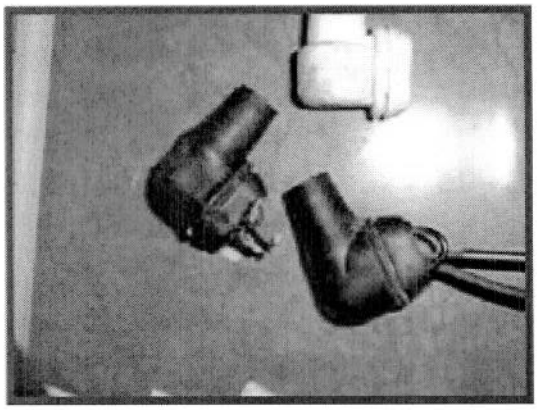

Figure 15. Assorted Mercury Freezer Switches for Disposal

(Source: Vermont Department of Environmental Conservation, Vermont Mercury Education & Reduction Campaign, Chittenden Solid Waste District, 2002)

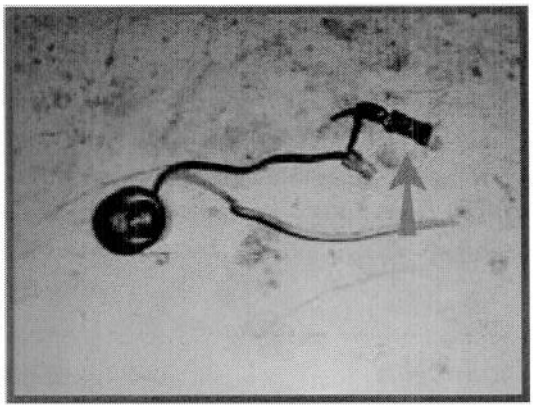

Figure 16. Chest Freezer Light with an Inline Mercury Switch (Glass Ampule)

(Source: Vermont Department of Environmental Conservation et al., 2002)

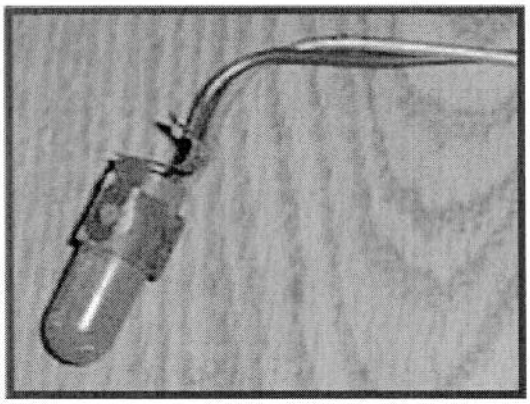

Figure 17. Washing Machine Mercury Switch

(Source: Vermont Department of Environmental Conservation et al., 2002)

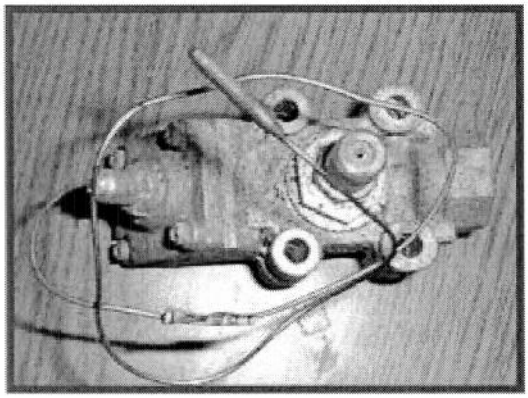

Figure 18. Gas Safety Valve Control, Gas Safety Valve Capillary Tube and Safety Valve Sensor Bulb from Gas Range

(Source: Vermont Department of Environmental Conservation et al., 2002)

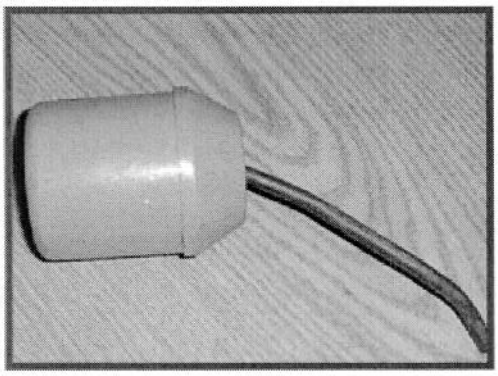

Figure 19. Sump Pump Float Containing Mercury

(Source: Vermont Department of Environmental Conservation et al., 2002)

Stockpiling

Once mercury containing units have been removed, they should be stored in a heavy plastic container with a proper fitting lid. Containers must be in good condition and must not leak. It is advisable not to use an aluminum or tin container as mercury may react with these metals and may leak through the container. Container contents must be marked on the outside of the container and containers must be stored in a dry location where they will not be disturbed (California Environmental Protection Agency, 2005).

Disposal

Summerhill, a company which operates the Mercury Switch-Out Program for End-of-Life Vehicles (ELVs), in conjunction with the Canadian Appliance Manufacturers Association, is currently working on developing a similar program for the collection and disposal of mercury switches from appliances. Information regarding this program can be found by contacting the Summerhill Impact group or on the following website: http://www.summerhillgroup.ca/eng/impact/programs/appliance-switches.php.

Mercury Switches – Vehicles

Collection

The Mercury Switch Out Program is a program that was developed to help automotive recyclers and dismantlers remove and dispose of mercury switches safely from ELVs. When an ELV dismantling facility registers with the program, Clean Air Foundation staff will send to the facility training and educational materials, a collection container for the mercury switches and a pre-paid waybill to send the container back once it is full.

All mercury switches must be removed from ELVs prior to crushing the vehicle hulks. Mercury switches can be found in trunks, hoods, convenience lighting and anti-lock braking systems. Not all vehicles have the same number of mercury switches and not all switches are found in the same locations in each vehicle. The Mercury Switch Out Program website has a number of resources to help ELV facility operators locate mercury switches in various vehicle models and step by step instructions on how to remove these switches. For each convenience light location, the following general steps must be taken:

- Locate the lighting assembly under the vehicle trunk and/or hood;
- Remove any fasteners to separate the entire lighting assembly from the vehicle;
- Break open the lighting assembly to expose the mercury switch capsule (a sealed metal pellet). Small flathead screwdrivers and wire cutters are often the only tools that are required; and,
- Remove the mercury switch capsule (using a small screwdriver) and place it in the *Switch Out* collection container. Replace the lid on the container. The remaining plastic/metal from the lighting assembly can be disposed of with regular waste.

On vehicles with ABS breaking systems, the following general steps must be taken:

- Locate the ABS G-Force sensor module on the vehicle. Module locations include: the drive tunnel, below the rear seat on the floor pan, on the right front wheel apron, and on the left frame rail right below the driver; and,
- Remove the ABS G-Force sensor module and place the entire sensor module in the *Switch Out* collection container. Replace the lid on the container. **NOTE:** The ABS G-Force sensor module contains either two or three mercury switch capsules embedded in the casing. **DO NOT** attempt to remove the mercury switch capsules from the sensor module.

Please refer to the Mercury Switch Out Program website at http://www.switchout.ca/ for further information.

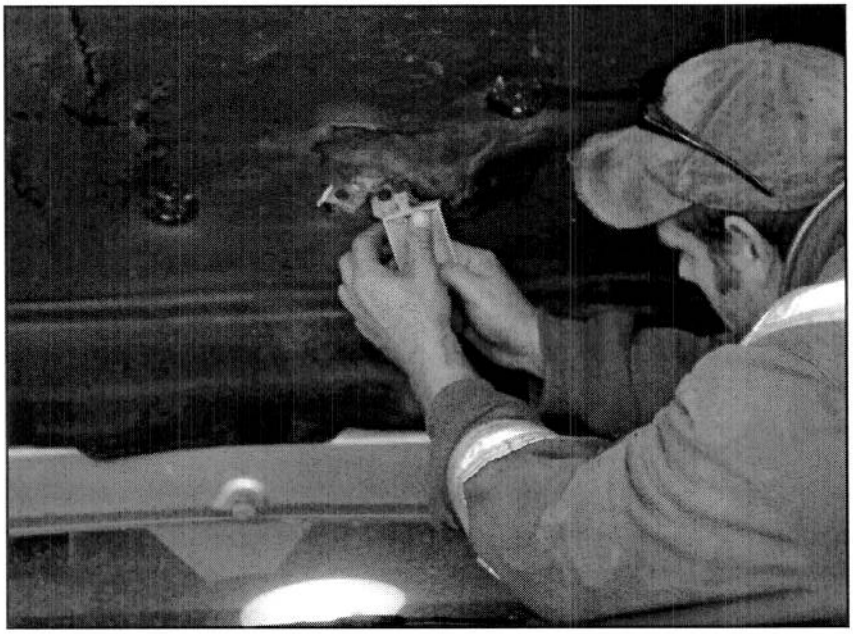

Figure 20. Example of Removing Light Assembly Containing a Mercury Switch

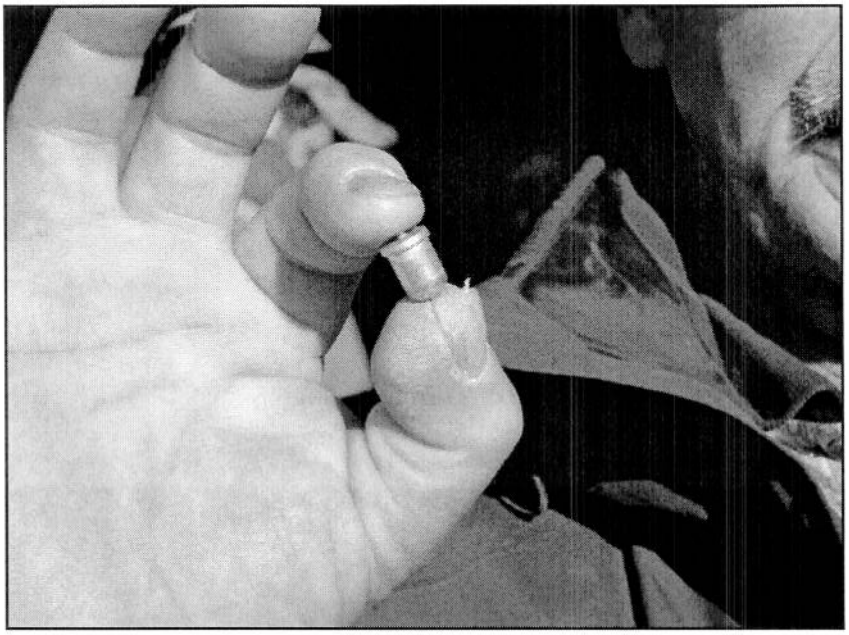

Figure 21. Mercury Pellet removed from Vehicle Convenience Light

Stockpiling

Once the mercury switches have been removed from each unit, they should be stored in the plastic container provided by the Mercury Switch Out Program. Most of the mercury found in these switches is contained within a metal capsule and therefore the likelihood of a spill is relatively low. However, should a metal capsule break, refer to the Switch Out Clean-Up Instructions located on the Mercury Switch Out Program's website for proper techniques to clean up the spill.

Disposal

Once the container has been filled, use the pre-paid waybill provided by the Mercury Switch Out Program to ship the switches back to the mercury management facility for safe disposal.

For further information on the safe removal, handling and storage of items containing mercury please refer to the Vermont Department of Environmental Conservation, Mercury Education & Reduction Campaign website. This website contains information on a variety of mercury sources as well as a manual that illustrates how to remove mercury switches from various household appliances.

3.1.6.9 *Lead*

Collection

Most lead in ELVs comes from wheel weights and battery cable ends. These items must be removed from vehicles prior to crushing and stored in separate, covered strong containers. Lead can be recycled into other usable items (National Code of Practice, 2008 and British Columbia Ministry of Environment, 2008).

Stockpiling

Store lead wheel weights and battery cable ends in separate, covered strong metal or wooden containers.

Disposal

Lead can be recycled into other usable items. The ELV operator will have to contact a metals recycler and make arrangements for them to accept the recovered lead.

3.1.6.10 *Capacitors and Ballasts*

Capacitors are commonly found in electronic devices, appliances and power supply equipment. Ballasts for disposal are most commonly associated with fluorescent light fixtures. All capacitors and ballasts found in electronic devices, appliances and light fixtures must be removed prior to landfilling these items.

Removal of capacitors and ballasts found in construction/demolition projects are generally completed by contractors. Prior to 1980, capacitors and ballasts contained PCBs (PCB Disposal, 2008) which is a chemical that may have adverse affects on human health (Health Canada, 2005). The Hamlet should not accept these wastes from construction sites as it is the responsibility of the contractor to properly dispose of capacitors and ballasts. If a Site Operator observes such items or suspects that items within the solid waste facilities may contain capacitors or ballasts, contact the Environmental Protection Service, Department of Sustainable Development, Government of Nunavut at (867) 975-5900.

As for capacitors and ballasts contained in waste appliances, these items should be removed prior to landfilling and/or sending south for recycling. Southern recyclers will most likely require that all capacitors and ballasts are removed from these items prior to accepting them at their facilities. Ballasts and capacitors may be found in lights, starters in motors, starters in fridges and stoves, etc. However, because the community will be removing these items, the solid waste facility will need to register as a waste generator with Environment Canada.

Ballasts and capacitors should be stored in separate 45 gallon drums, kept in a secured location and protected from the weather. Workers removing these items should wear standard personal protective equipment including standard work gloves as an asphalt type paste may leak from these items. Further information specific to ballasts and capacitors can be found in the following paragraphs. For further information on ballasts and capacitors please refer to the Canadian Electricity Association website http://www.electricity.ca/home.php.

Ballasts

Collection

Ballasts are components generally found in fluorescent lighting fixtures and high intensity discharge (HID) lamps. In fluorescent lighting fixtures, the ballasts are usually found between two fluorescent tubes and protected by a heat shield. HID ballasts are generally found encased within a box attached to the

outside of the light fixture or located within the light housing. Examples of HID lamps include streetlights and parking garage lights (Environment Canada, 1991).

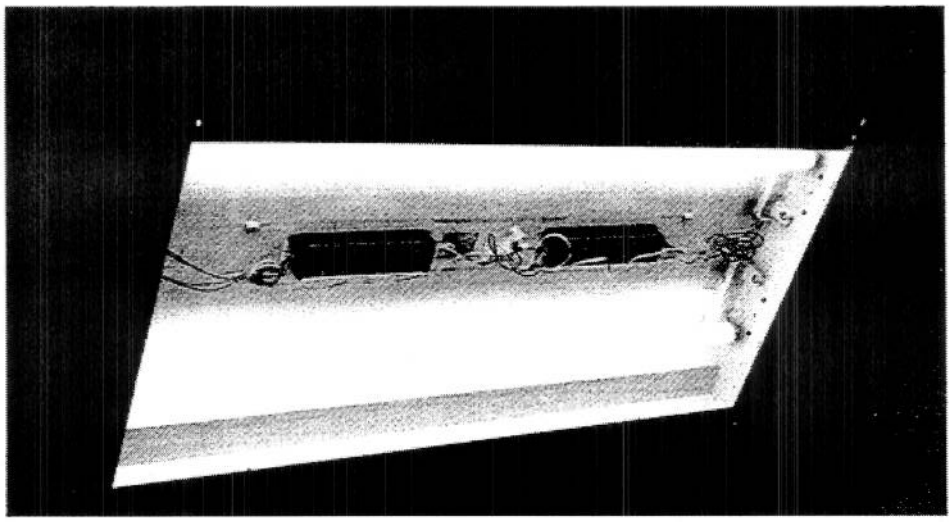

Figure 22. Fluorescent Lamp Unit with Exposed Lamp Ballasts

(*Source: Environment Canada, 1991*)

It should be noted that fluorescent lights found in appliances such as stoves may contain ballasts that may have PCB material within them. Unless ballasts are identified as "PCB free", these items should be removed and properly disposed of as hazardous waste.

Fluorescent ballasts contain a core/coil unit, a thermal protector and a capacitor. The capacitor may contain PCBs. It is the PCBs that are of concern as they may pose a risk to human and environmental health. These ballasts may also be filled with an asphalt/silica type compound. If the ballast contains this compound, the capacitor within the ballast will not be readily accessible. Therefore it is important that the entire ballast unit is removed and disposed of through a proper hazardous waste disposal company. HID ballasts usually require higher levels of capacitance than fluorescent ballasts. Therefore they often contain more capacitors and hence may contain more PCBs than fluorescent light ballasts (Environment Canada, 1991).

In the late 1970's to early 1980's, many companies began phasing out the use of PCBs in capacitors. However, there are still ballasts with capacitors in use today that may contain PCBs and therefore caution must be taken when removing and disposing of ballasts. In order to determine if a ballast contains PCBs, the manufacturer of the ballast should be contacted. The manufacturer should be able to determine whether the ballast contains PCBs based on the date codes and/or catalogue codes on the ballast casing (Environment Canada, 1991). Many manufacturers also began labelling non-PCB containing electrical equipment to aid in proper handling. Equipment labelled as "PCB-free" of "Non PCB" does not require

removal. The solid waste site operator should mark each appliance as inspected and cleared as appropriate.

Caution must be taken when removing ballasts. The fixture must be de-energized prior to removal of the ballast and must not be re-energized during the removal. Capacitors may also hold a charge for several days after their last use and therefore there is a risk of electric shock to persons removing capacitors. As there is a possibility of PCBs leaking from the ballast, goggles and acid resistant gloves must be worn when removing and handling the ballast (Connecticut Department of Environmental Protection, 2005).

It should be noted that fluorescent lamp tubes contain mercury phosphor powder, lead and cadmium and must not be disposed of in the general waste stream. They must be disposed of through an approved hazardous waste recycler and/or disposal company. If the tubes are not broken, they may be packaged in their original packaging and sent to an approved facility with no further special transportation requirements. However, if the tubes are broken, special safety, handling, packaging and transportation requirements must be met. Safety procedures are of utmost importance to prevent worker exposure to mercury. In the case of disposing of a broken fluorescent tube, contact a Safety Officer at the Prevention Services Division, Workers Compensation Board in Iqaluit at (867) 979-8500 or 1-877-404-4407 (Environmental Protection Service, 2003).

Stockpiling

The PCB Regulations (published in the Canada Gazette, 2008) under the Canadian Environmental Protection Act, 1999 states in paragraph 24:

"PCBs or products containing PCBs shall be stored at a site that is

(a) a building, room, shipping container or other enclosed structure; or
(b) an area that is enclosed by a woven mesh wire fence or any other fence or wall with similar security characteristics, and the fence or wall shall be at least 1.83 m high."

The PCB Regulations go on to state in paragraph 25:

"The owner or operator of a PCB storage site shall

(a) store all PCBs or products containing PCBs that are in liquid form in
    (i) sealed containers, other than drums, that are made of steel or other metals that provide sufficient durability and strength to prevent those PCBs or products from being affected by the weather or released, or
    (ii) drums that are
        (A) of a capacity not greater than 205 L,
        (B) a closed-head double-bung drum made of steel having a gauge of 16 or heavier, and
        (C) painted or treated to prevent rusting;

(b) store all PCBs or products containing PCBs that are in solid form in

(i) containers, other than drums, that are made of steel or other materials that provide sufficient durability and strength to prevent those PCBs or products from being affected by the weather or released, or

(ii) drums that are

(A) of a capacity not greater than 205 L,

(B) made of steel having a gauge of 18 or heavier,

(C) equipped with a securely attached, removable steel lid and a gasket made of material that is resistant to the PCBs or the products containing PCBs that are stored in the drums, and

(D) painted or treated to prevent rusting;

(c) store equipment containing PCB liquids in

(ii) containers, other than drums, that are made of steel or other materials that provide sufficient durability and strength to prevent the equipment from being affected by the weather and to prevent any PCB liquid that leaks from the equipment from being released, or

(iii) drums described in subparagraph (b)(ii);"

Paragraph 25 goes on to list the storage space requirements for the above described containers. A copy of the PCB Regulations has been included as an appendix to this manual. Please refer to this document for further proper storage, handling and documentation information and requirements.

Disposal

As previously stated, ballasts containing hazardous materials must be sent to an approved hazardous waste disposal facility. PCB Disposal (a division of Sanexen Environmental Services Inc.) is a company located in Ontario that will accept and dispose of PCB containing ballasts. They have also published a document to help identify ballasts that may contain PCBs. Further information regarding this company can be found on the website at http://www.pcbdisposalinc.com/.

Capacitors

Collection

Capacitors found in household appliances are predominantly labelled as either 'oil-filled' or 'dry'. Oil-filled capacitors are often referred to as running capacitors. Running capacitors are generally used in applications where they are required to be in use during the entire operating time. As they are constantly in use, heat builds up within the capacitor. The oil contained within the capacitor helps to dissipate this heat. Oil-filled capacitors manufactured prior to the late 1970's and early 1980's may contain PCB compounds within the oil. In order to determine if the capacitor contains PCB material, contact the manufacturer and provide the date and/or catalogue code located on the capacitor casing. Some capacitors may be stamped with "NO PCBs" on the casing. In this case, the capacitor does not contain PCBs. Appliances that most likely contain oil-filled capacitors include air conditioners, copy machines, microwave ovens, mercury vapour lamps, dehumidifiers and submersible well pumps. Capacitors in

microwaves can be found behind the front control panel and wired to the transformer (Connecticut Department of Environmental Protection, 2005).

Be aware that oil-filled space or portable heaters may not contain a PCB capacitor, however PCBs may be found within the actual oil. Although most oil-filled space heaters do not contain PCBs, those that do may have very high concentrations of PCBs. It is recommended that any of these types of heaters be tested for the presence of PCBs prior to crushing or disposal (Connecticut Department of Environmental Protection, 2005).

Dry capacitors are generally known as starting capacitors as they are used to start a motor during the initial start up. Once the motor is running, they are no longer needed and so are not used during the entire motor operation. Because these capacitors are only used for short periods of time, they do not produce much heat and therefore do not require oil for heat dissipation. Starting capacitors are usually identified by a non-sealed black casing or outer shell. Starting capacitors are generally found in clothes dryers, fans, refrigerators, stoves, televisions, washing machines and various electronic equipment. These capacitors are not known to contain PCB materials and so are not required to be handled as hazardous waste material.

Stockpiling

Capacitors containing PCBs should be stockpiled as outlined under the stockpiling section for ballasts as per this O&M Manual.

It is important to keep ballasts and capacitors containing PCBs away from fire hazards. Fire may cause these items to explode and release PCBs into the environment.

Disposal

Capacitors containing PCBs should be disposed of as outlined under the disposal section for ballasts as per this O&M Manual.

3.1.6.11 *Propane Tanks*

Most household type propane cylinders use a vapour withdrawal system that works by withdrawing the propane vapour from the top of the cylinder. The propane vapour sits above the propane liquid within the cylinder, therefore these types of propane cylinders must always be stored and transported in a vertical position. If the cylinder is on its side or upside down, liquid propane may be drawn out of the cylinder and pose an extreme danger (Nova Scotia Department of Environment and Labour, 2006). These cylinders should always be stored outside, in a vertical position (not upside down), off the ground on a non-combustible base, and away from all possible sources of heat or ignition (Propane Gas Association of Canada, 2010). At the solid waste facilities, these cylinders should be stored outside in an open area at the hazardous waste disposal area and away from other hazardous wastes.