

# Analysis of Waste Management Strategies for On-Farm Meat Processing

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## **Acronyms and Terminology**

**AU (Animal Unit)** – This measurement term is approximately equivalent to one processed beef animal of 454 kg (or 1000 lb). Other animals or poultry are defined by their weights in proportion to this.

**ALR (Agricultural Land Reserve)** – A provincial zone in British Columbia in which agriculture is recognized as the priority use. Farming is encouraged and non-agricultural uses are controlled. The ALR covers approximately 4.7 million hectares over the province. It includes private and public lands that may be farmed, forested or vacant land.

**BSE (Bovine Spongiform Encephalopathy)** – Commonly known as Mad-Cow Disease, BSE is a fatal neurodegenerative disease found in cattle that causes a spongy degeneration in the brain and spinal cord. Rate is about 1:10,000 animals.

**CFIA (Canadian Foods Inspection Agency)** – Created in 1997, the CFIA is a science-based, federal regulatory agency that is dedicated to safeguarding food, animals, and plants, and enhancing the health and well-being of Canada's people, environment and the economy

**Compost/composting** – A naturally occurring biological oxidization and decomposition process in which bacteria, fungi and other micro-organisms convert organic matter into a stabilized product. Carcass composting systems require a variety of ingredients or co-composting materials, including additional carbon sources (such as sawdust, straw, or shavings.)

**CJD (Creutzfeldt-Jakob Disease)** – A degenerative neurological disorder (brain disease) that is incurable and invariably fatal. CJD is at times referred to incorrectly as a human form of mad cow disease.

**Distal ileum** – the last metre of the small intestine. In all cattle, the distal ileum is considered SRM.

**Dorsal root ganglia** – Nerves attached to the spinal cord. In cattle over 30 months, the spine including one inch to either side is considered SRM.

**Farm-gate sales** – A commercial situation in which products are sold directly to consumers by a farmer, without government inspection.

**Fixed-base abattoir** – An abattoir building in a particular place as opposed to mobile.

**Liquid waste** – Includes washing water, scalding water and other liquids produced by the slaughter industry.

**MBM (Meat and Bone Meal)** – This product of the rendering industry is used in feed for mono-gastric animals (animals with one stomach such as dogs and cats). MBM is typically about 48 – 52% protein, 33-35% ash, 8-12% fat, and 4-7% moisture.

**Micro-abattoir** – An abattoir which focuses on small-scale meat processing and which is often farm-based.

**Mobile abattoir** – An abattoir which is able to move and provide service to farmers on their own farm.

**Pathogen** – A microbe or microorganism such as a virus, bacterium, prion, or fungus that causes disease in its animal or plant host.

**Prions** – An infection agent composed of forms of misfolded proteins.

**Retail sales** – The sale of food, physical goods or merchandise from a fixed location such as a store, boutique or kiosk, or by mail in small or individual lots.

**Solid waste** – Includes feathers, hides, bones, carcasses, manure and other non-liquid wastes produced by the slaughter industry.

**SRM (Specified Risk Material)** – The skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older, and the distal ileum of cattle of all ages.

**Tallow** – A rendered form of beef or mutton fat used to make soap and animal feed.

**Trigeminal ganglia** – Nerves attached to the brain. In cattle over 30 months, the entire head is considered SRM.

**TSE (Transmissible Spongiform Encephalopathies)** – Also known as prion diseases, TSE are a group of progressive conditions that affect the brain and nervous system of many animals including humans (BSE is a type of TSE).

**Value-added** – Generally refers to farm products that have been processed in some way to increase the return to farmers.

**Vectors** – disease carrying organism.

**Waste** – Any material not produced for the market for which the producer has no further use in terms of their own production, transformation or consumption.

**YESAA (Yukon Environmental and Socio-Economic Assessment Act)** – The Act sets out a process to assess the environmental and socio-economic effects of projects and other activities in the Yukon or that might affect the Yukon. The Act came into force May 13, 2003.

**YESAB (Yukon Environmental and Socio-Economic Assessment Board)** – A board which looks at the environmental and socio-economic effects (positive and negative) of activities and integrates scientific information, traditional knowledge and other local knowledge in assessments.





## **Executive Summary**

This report examines the available options for dealing with the materials generated from a farm-based abattoir in the Yukon Territory. It is a collection of currently applicable information from a wide variety of sources regarding disposal options for slaughter by-products, an exploration of options for further processing into usable products (value-added) or crop-production amendments, and recommendations for waste management for Yukon Territory livestock producers.

The Yukon Agriculture Branch has expressed the need for a comprehensive waste management plan to ensure the appropriate disposal of materials that may or may not pose an environmental and health risk. This report will assist farmer producers develop safe and economical processes to deal with abattoir waste from on-farm processing of livestock.

Information for this Waste Management Plan was collected from a micro-abattoir waste specialist, a composting scientist, on-farm livestock processors, consumers and other stakeholders, as well as territorial, provincial and federal agencies. Research included an examination of the current status inside and outside the Yukon Territory. Comprehensive waste management strategies have been summarized in this document for current and prospective on-farm livestock processors.

Yukon industry stakeholders have long promoted the need for the livestock sector to grow in the Yukon Territory's agricultural industry. According to Energy Mines and Resources' biannual Agriculture State of the Industry Report, Yukon consumption rates and sales patterns indicate an annual consumer and visitor demand for 6,000 beef cattle, 12,000 hogs, and up to 200 head of both elk and bison – much more than current production levels.

Farmers, either directly or through arrangements with a meat processor, want to market their product to stores, restaurants, and caterers as well as to individual Yukon families. More and more consumers today are looking for locally-produced, humanely-raised and slaughtered, grass-fed, organic or "natural" meats, because they attach personal ethics to their purchasing power and believe there are health benefits for themselves and their families. An abattoir that serves the needs of the producer also translates into increased consumer access to high quality Yukon meat, and offers the opportunity to put ethical beliefs into practice.



## **Summary of Work**

Activity 1: Contact micro-abattoir waste specialist, Abra Brynne, regarding requirements for slaughter wastes and available options throughout Canada. This includes:

- Initial phone conversations.
- The provision of documents.
- In-person meeting in Whitehorse with territorial stakeholders, relevant government bodies and the authors.
- Compilation of additional information pertaining to composting as a disposal method.

Activity 2: Contact territorial, provincial and federal departments to inquire about waste management practices and regulations. This includes:

- Several meetings with the Agriculture Branch, Yukon Environment and the Chief Veterinary Officer to share information from this report and to seek scientific and agricultural expertise.
- Email exchanges with the above to ensure appropriate and correct progression and interpretation.

Activity 3: Collect information pertaining to production of value-added products and value added disposal methods. This includes:

- Internet research, publication documents, and phone conversations with inter-provincial governmental departments, a micro-abattoir waste specialist, a composting scientist and other sources.

Activity 4: Compile and summarize information pertaining to the details of disposal techniques such as composting, biopiling, rendering, gasification, controlled incineration, burial and containment, anaerobic digestion, alkaline hydrolysis and thermal hydrolysis.

Activity 5: Contact appropriate government departments regarding current expectations and strategic plans.

- meeting on the 26<sup>th</sup> of October 2011, in the Yukon Agriculture Branch office with Tony Hill, Mary Vanderkop, Benjamin Tedeschi and Tom Rudge. Consultation with Environment Yukon (Chief Veterinary

Officer) and the Agriculture Branch with regards to initial questions.

- meeting on the 6<sup>th</sup> of December 2011 with Benjamin Tedeschi and Bethany Peters from Environment Yukon to assist specifically with permitting issues surrounding non-SRM.
- meeting on the 12<sup>th</sup> of December 2011, in the Yukon Agriculture Branch office with Abra Brynne, Tony Hill, Mary Vanderkop, Tom Rudge and Benjamin Tedeschi. Ideas sharing and a clarification on specific points from the earlier meeting, as well as a re-visitation of the relevant permitting issues and regulatory stipulations surrounding abattoir waste and usage.

Activity 6: In-depth and in-person consultation with micro-plant waste management specialist Abra Brynne during a four day visit to Whitehorse as well as through numerous email and phone conversations.

Activity 7: Obtained feedback regarding interim report from selected producers and affected government departments:

- Verbal feedback was obtained from two farmers, Yukon Environment and Yukon Agriculture branch with a specific focus on an analysis of the waste disposal options from a socio-economic and environmental perspective.

Activity 8: Change report as needed:

- Relevant governmental departments were invited to comment on the interim report. Changes made based on these suggestions are effective in this report.

Activity 9: Format and edit document for final printing.

Activity 10: Revisit section on composting & procedures at request of CAAP council. Print out copies of regulations and legislations from website material referenced in the manual.

## **Motivation and Goals**

In the Yukon's challenging climate, one way to stabilize farm income is to incorporate livestock into a diversified farm system. Genuinely sustainable farming maintains the resilience of the entire ecosystem by encouraging a rich level of biodiversity in the soil, water, and wildlife. Diversified farms which include livestock are key to long-term sustainability of farms particularly as we head into an era where fossil-fuel based fertilizers become too cost prohibitive. Considering the remoteness and limiting factors associated with living and farming in the Yukon, it is imperative that we pay close attention to our need for food sovereignty, food safety for locally produced foods, and transparency of food production methods.

Of particular relevance is the issue of localizing our meat-industry waste disposal options. The potential for a localized, sustainable and healthy meat production industry in the Yukon Territory is greater if we can demonstrate to the public and to the territorial and federal governments that farmers know how to ensure appropriate management of abattoir waste.

Economical and sustainable management of on-farm slaughter by-products is the goal of this report: to provide an avenue for local farmers and homesteaders to butcher their own meat while ensuring the safe disposal or conversion of by-product materials.

Increasingly, Yukon consumers are discovering the importance and an enthusiasm for supporting small, local farms and farm-based activities. They are looking for meat from animals that have been raised on outdoor pasture and have been fed a diet free from hormones, antibiotics, and meat by-products. Most are concerned that the meat they purchase is from animals that were treated well while on the farm and killed in a way that is as quick and humane as possible. Yukon farms are well prepared to meet this need.

Farmers and affected producers need to know how to prevent the transmission of BSE through specific handling required for SRM. SRM are not considered by either the territorial or federal government to be a hazardous material in and of themselves. Although the potential is small, possible pathogenic spread of BSE is a real concern and must be taken into account as the Yukon continues to develop its agricultural industry.

Discussion has occurred in recent years for the construction of a single, large-scale, centralized animal slaughtering facility in the Yukon Territory.

This report supports the efficacy, efficiency and financial thriftiness of the alternative strategy of building multiple micro-abattoirs.

There are numerous reasons why the use of several micro-abattoirs would be more beneficial than a single, large-scale, facility:

1. Start-up costs and operation and maintenance costs would be lower with several smaller facilities.
2. The construction of several micro-plants would allow the industry to grow at a sustainable rate and create natural resilience through redundancy.
3. By expanding the number of facilities, the number of skilled workers is maximized since each owner/operator would be, in effect, their own processing labour force.
4. Producers would be more committed to sustainable use of a micro-facility situated close to the source of livestock.
5. The pressure of waste management is relieved when processing occurs at multiple smaller facilities.
6. Maximized use of a single, large facility would be difficult.
7. Several micro-facilities alleviate the boom or bust seasonality of local processing needs.
8. A prospective micro-abattoir facility could be incorporated into the existing farm operation, and not be a stand-alone enterprise.
9. Under current program funding, there should be money accessible for portions of micro-processing project costs.
10. The localization of waste disposal ties in with concepts of food sovereignty, sustainability and food crisis inevitability.
11. Smaller scale maintains the volume of waste at a level which is more readily manageable from a process and environmental impact perspective.
12. Despite the financial support and time that has gone into setting up the mobile abattoir and ensuring its ongoing maintenance, the service continues to be under-utilized. This suggests that it does not sufficiently provide for the needs of farmers and consumers.
13. The Yukon does have a great image outside, and if high-quality products were available it is possible that limited, high-value exports markets could open up. (This would require federal inspection.)
14. Farm-based abattoirs could potentially diversify the farm economy since they could be used to process meat for retail sales, for home consumption or for farm-gate sales.
15. In a large plant, the high number of animals being processed, mixing animals from different farms and a high number of people handling

the meat can increase the risk of contamination. Because more people consume this meat, a greater number of people can be affected if there is a problem. The risks of high pollution levels are increased as well as increased risk to public health. Animals raised and slaughtered on-farm result in safer meat and more humane treatment than animals transported long distances and distributed via a centralized system. Direct sales are more likely from a micro-abattoir. Thus, if a problem were to arise, it would only affect a small, known clientele and be easier to contain.

16. The production chain is shorter, and the individuals involved know each other.
17. Micro-abattoirs can significantly reduce climate change emissions by allowing people to buy directly from the nearest farm.

Compiling the current regulations into a single readable document will facilitate waste management planning for small-scale livestock producers/processors. This plan will provide details of alternate management strategies that can be adopted for future policy direction by local regulatory bodies. This plan has the potential to greatly assist small, on-farm meat processors with regulatory compliance and assist the government in ensuring public safety.





## **Territorial, Provincial and Federal Regulation and Legislation**

On-site and/or off-site abattoir waste disposal (both liquid and solid) must meet federal requirements (where applicable) as well as the requirements of Yukon Environment (under the auspices of the Yukon Environmental and Socio-Economic Board).

To facilitate this process, this document includes the following list of territorial, provincial, federal and independent legislations, policies, guidelines and codes of practice that are relevant to the issue at hand. A printed copy of each accompanies this report. Be aware that changes can occur and the most recent version will be found at the website address listed.

### **Federal**

- Canadian Feeds Act  
<http://laws-lois.justice.gc.ca/PDF/F-9.pdf>
- Canadian Fertilizers Act  
<http://laws-lois.justice.gc.ca/PDF/F-10.pdf>
- Canadian Health of Animals Act  
<http://laws-lois.justice.gc.ca/PDF/H-3.3.pdf>
- Canadian Meat Inspection Act  
<http://laws-lois.justice.gc.ca/PDF/M-3.2.pdf>
- Canadian Meat Inspection Regulations 1990  
<http://laws.justice.gc.ca/en/M-3.2/SOR-90-288>
- Hazard Analysis Critical Control Points and Food Safety Enhancement Programs  
[www.inspection.gc.ca/english/fssa/polstrat/haccp/haccpe.shtml](http://www.inspection.gc.ca/english/fssa/polstrat/haccp/haccpe.shtml)

## **Yukon Territory**

- Yukon Agricultural Products Act  
<http://www.gov.yk.ca/legislation/acts/agpr.pdf>
- Yukon Meat Inspection and Abattoir Regulations (Agricultural Products Act)  
[http://www.gov.yk.ca/legislation/regs/oic1988\\_104.pdf](http://www.gov.yk.ca/legislation/regs/oic1988_104.pdf)
- Yukon Environmental and Socio-Economic Assessment Act - Bill C2  
[http://www.parl.gc.ca/About/Parliament/LegislativeSummaries/bills\\_ls.asp?Language=e&Parl=37&Ses=2&Mode=1&ls=C2&source=library\\_prb](http://www.parl.gc.ca/About/Parliament/LegislativeSummaries/bills_ls.asp?Language=e&Parl=37&Ses=2&Mode=1&ls=C2&source=library_prb)
- Yukon Environmental and Socio-Economic Assessment Act - Assessable Activities, Exemptions, and Executive Committee Projects Regulations  
<http://laws.justice.gc.ca/PDF/SOR-2005-379.pdf>
- Yukon Environment Act  
<http://www.gov.yk.ca/legislation/acts/environment.pdf>
- Yukon Environment Act - Solid Waste Regulations  
[http://www.gov.yk.ca/legislation/regs/oic2000\\_011.pdf](http://www.gov.yk.ca/legislation/regs/oic2000_011.pdf)
- Yukon Public Health and Safety Act – Public Health Regulations  
<http://www.gov.yk.ca/legislation/acts/puhesa.pdf>
- Yukon Public Health and Safety Act – Sewage Disposal Regulations  
[http://www.gov.yk.ca/legislation/regs/oic1999\\_082.pdf](http://www.gov.yk.ca/legislation/regs/oic1999_082.pdf)

## **Other Territories (similar demographic and geographical portfolio)**

- Northwest Territories Public Health Act (Consolidation of Meat Inspection Regulations R-190-96)  
<http://www.canlii.org/en/nt/laws/regu/nwt-reg-190-96/latest/nwt-reg-190-96.html>

### **Provincial (suggested precedents for Yukon policy development)**

- Alberta Environmental Protection and Enhancement Act, RSA 2000, cE-12, Environmental Code of Practice for Compost Facilities  
<http://www.qp.alberta.ca/documents/codes/COMPOST.PDF>
- British Columbia Environmental Management Act: Code of Practice for the Slaughter and Poultry Processing Industries  
[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/18\\_246\\_2007](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/18_246_2007)
- British Columbia Environmental Management Act and Public Health Act: Organic Matter Recycling Regulation  
[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/18\\_2002](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/18_2002)
- British Columbia Ministry of Health: Meat Inspection – Graduated Licensing  
[http://www.health.gov.bc.ca/protect/meat-regulation/graduated\\_licensing.html](http://www.health.gov.bc.ca/protect/meat-regulation/graduated_licensing.html)
- Ontario Dead Animal Disposal Act (DADA)  
[http://www.e-laws.gov.on.ca/html/source/regs/english/2006/elaws\\_src\\_regs\\_r06302\\_e.htm](http://www.e-laws.gov.on.ca/html/source/regs/english/2006/elaws_src_regs_r06302_e.htm)

### **Government Departments**

Canadian Foods Inspection Agency – responsible for ensuring the safety and accountability of the foods, farming and fertilizer industry.

Yukon Environment – responsible for wildlife health, domestic animal health, preserving and protecting the environment, ensuring humane animal handling, and prevention of disease spread.

Yukon Agriculture Branch – responsible for increasing livestock production and supporting agriculture.

Yukon Environmental Health – responsible for population health, the health of the environment, and the prevention of pollution.

Yukon Environmental and Socio-Economic Assessment Board – responsible for the assessments of projects in conjunction with other governmental departments and public input.

## Yukon in Brief

The Yukon Territory has a population of approximately 32,000 people living in a region 483,450 square kilometres in area. This is approximately 75% of the size of Alberta, with only 1% of the population. At least 70% of the Yukon’s population lives in Whitehorse, which demonstrates the urban and centralized nature of the Yukon’s demographic portfolio.

In Yukon, with the lack of fixed-base abattoirs, most of the animal processing occurs on-farm without inspection and disposal of waste materials ranges from unsupervised on-site burial to composting or transport to the landfill or transfer stations. Some of the waste is utilized as dog food or by trappers. Similar disposal methods are used for on-farm animal mortalities.

The territorial government supports the need for registered, inspected and regulated animal slaughtering facilities which set the groundwork for the mobile abattoir that is currently in place. Despite the financial support and time that have gone into setting up the mobile abattoir and ensuring its ongoing maintenance, the service continues to be under-utilized.

The following chart, from

[http://www.emr.gov.yk.ca/agriculture/pdf/yukon\\_multi\\_year\\_development\\_plan.pdf](http://www.emr.gov.yk.ca/agriculture/pdf/yukon_multi_year_development_plan.pdf), shows the estimated demand and supply of various Yukon meat products in 2006:

	Disappearance Rates (Kgs, litres, dozen per Year)	Estimated Disappearance based on population (31,608)	Estimated Production per animal (kgs or litres)	Production required (# of Animals)	Realistic Market Share	Realistic livestock	Estimate of Current Yukon Production
Beef	30.65	968,785	227	4,272	10%	427	100
Pork	27.74	876,806	68	12,887	10%	1,289	113
Poultry	38.3	1,210,586	3	484,235	25%	121,059	12,000

This clearly demonstrates the comparatively miniscule animal slaughtering industry needed in the Yukon Territory. Clearly what is best suited to such an agricultural portfolio are several small facilities.



## **Farm-Gate, Retail, or Export**

Agricultural products in the Yukon are marketed through a few different channels as follows:

- Farm-to-Farm: Products that are marketed from one livestock or crop producer to another, such as breeding stock, hay and feed
- Farm-Gate: Products sold directly to consumers without government inspection and without the use of a retail intermediary (meat, eggs, vegetables, sod).
- Market: Products sold directly to consumers in community/farmer's markets (vegetables, fruit, meat, animal fibre, value-added processing, bottled water, fish).
- Agri-food Processing: Products sold to intermediate retail consumers for further processing (bakeries, caterers, and restaurants)
- Retail/Commercial: Products sold to commercial clients that retail to consumers (vegetables, value-added products, fish, bottled water)
- Export: Products that are sold by Yukon producers to consumers/entities that exist outside of the Yukon Territory and even Canada (sod, elk antler, fish, bottled water).

It is estimated that approximately 75% of the purchase of local agricultural products in the Yukon are through Farm-to-Farm, Market and Farm-Gate channels. Local food purchase is on the rise in the territory and, for a variety of reasons, many residents have a strong inclination to buy locally. Increasing numbers of people attend the seasonal farmers' markets each year and there are stable levels of farm-gate sales with many producers keeping a waiting list for meat.

The export market in the Yukon Territory is extremely small. Aside from a few key businesses (spring water, elk antler velvet, sod, & fish), virtually all Yukon-grown products are sold in the Yukon. The high cost of production and transport, the limited quantities of farm products available, and the prescriptive nature of the construction and procedural requirements for federal meat plants currently limits the feasibility of export for meat.

Of particular importance to local producers is the ability to utilize farm-gate sales. The relevant legislation is from the 2002 revision of the Yukon Agricultural Products Act, section 19:

- (1) No person shall sell a regulated product or offer a regulated product for sale to any person unless the product has been approved by an inspector in accordance with regulations applying to that product.*
- (2) Subsection (1) does not prohibit a person from making an occasional private sale of a live animal, other than a game animal, raised by the person, whether or not the person assists the purchaser with the slaughter or butchering of the animal.*

This has been interpreted in the Yukon to mean that for retail sale, meat must:

- be processed in an inspected facility.
- be inspected by a meat inspector who verifies the health of the animal prior to slaughter as well as the postmortem quality of the meat.
- be stamped by the inspector prior to delivery to a processing facility (approved).
- travel from the place of slaughter/processing to an approved cutting and wrapping facility by an approved vehicle.
- be processed in a way that meets the relevant regulations and be supervised as meeting them by a specific person who is designated for that task (inspector).
- be accompanied by signed paperwork whenever the meat is transferred between entities.
- be considered Farm-Gate sales if it is removed from the inspection process at any point prior to delivery to the customer.

Farm-Gate sale is altogether different. If a customer is buying meat in a farm-gate capacity, he/she understands that he/she is in fact buying a live animal and the producer is assisting with preparing the animal for the freezer. The farmer-operator in this instance must:

- take every precaution to provide a healthy product.
- commit to not selling it in a retail capacity or to a business of any type.
- must understand that it is not an inspected product, the facility in which it is processed is not an inspected facility, and there is no inspection done on the transport process; thus the farmer must take the steps necessary to ensure that the meat is clean and safe for eating.



## **Specified Risk Materials (SRM)**

### **Bovine Spongiform Encephalopathy (BSE)**


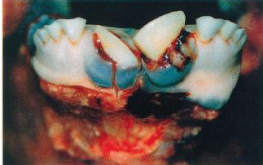




Specified Risk Material (SRM) are defined as the portions of cattle (*bos indicus* or *bos taurus*) which have the possibility of containing the prions (an abnormal protein pathogen) implicated in the condition known commonly as BSE or Bovine Spongiform Encephalopathy.

BSE is one form of a disease family known as 'transmissible spongiform encephalopathies' or TSEs, found in humans as Creutzfeldt-Jakob Disease (CJD). This report will focus on the bovine form which the term SRM generally refers to. BSE has garnered the most international media attention as Mad Cow Disease. Other animal tissues such as in elk and deer (Chronic Wasting Disease), goats and sheep (scrapie), and mink (transmissible mink encephalopathy (TME) are not considered to contain SRM, despite having their own variants of TSE, as there is no conclusive research which suggests the transmissibility of these conditions to bovines or humans.

The likelihood of abnormal prions in cattle is only 1 in 10,000 in Canada and even less likely in a region that has not traditionally relied on feed products containing slaughter wastes. Cattle in the Yukon are generally raised on pasture and hay in winter.

In cattle with BSE, the prions that may transmit the disease are concentrated in certain tissues. These tissues, in all cattle (infected or not) are referred to as Specified Risk Material. These tissues are defined anatomically as the distal ileum (portion of the small intestine) of cattle of all ages and the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged thirty months or older. The thirty-month threshold is based on extensive scientific data which demonstrates that animals under this threshold do not carry the responsible prion in the portions of the animals deemed to be SRM in older bovines. Older cattle are at a higher risk for BSE but the incidence of BSE in Canada, even in older animals, is very low. Special handling is required for cattle 30 months or older. Analysis of the teeth can be used if the precise age of an animal is unknown. If there is any doubt about age, the animal must be treated as if it is older than 30 months.

## Bovine Dentition to Determine Age

		
<p>Milk teeth (less than 24 months)</p>	<p>First incisors erupting (less than 30 months)</p>	<p>First pair of incisors (less than 30 months)</p>
		
<p>Third incisor (older than 30 months)</p>	<p>Second pair of incisors (older than 30 months)</p>	<p>Two full pairs of incisors (older than 30 months)</p>

## Possible signs of BSE infection



Ataxia and hypermetria of infected cow.

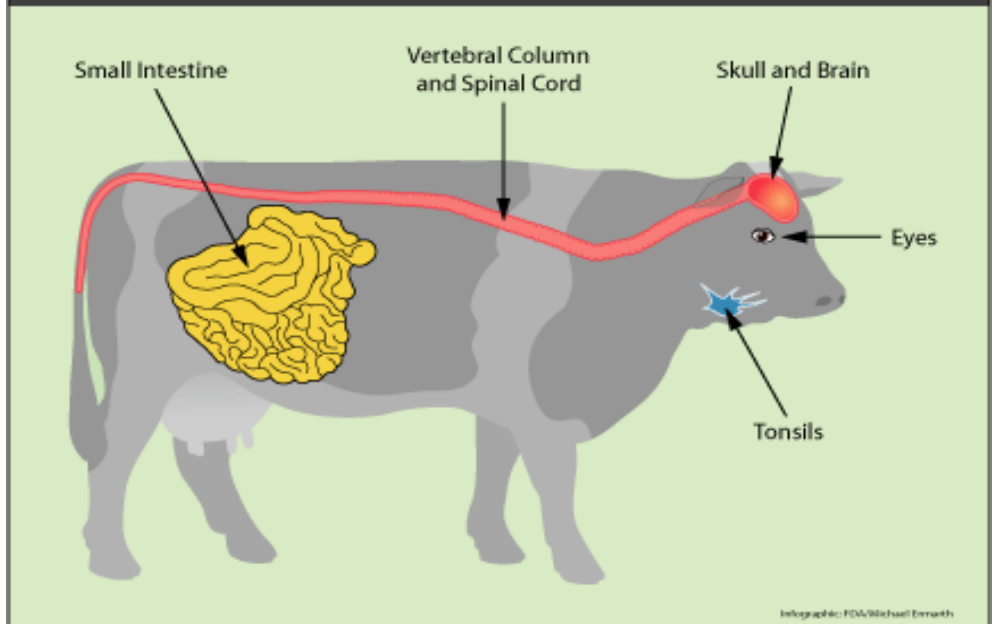
Ataxie et hypermétrisme chez une vache infectée.



Nervousness when confronted with obstacles.

Nervosité exacerbée en face d'un obstacle.

## Cow Parts Banned from Human Food Chain



(for cattle 30 months of age or older)

**European Union Scientific Steering Committee  
Estimate of Cattle Infectivity Dose (ID) 50**

<b>Tissue</b>	<b>Cattle infectivity dose (ID)50 per BSE case</b>	<b>Percentage of total infective load per bovine</b>
Brain	5000	64.1%
Spinal cord	2000	25.6%
Trigeminal ganglia	200	2.6%
Dorsal Root ganglia	300	3.8%
Ileum	260	3.3%
Eyes	3	0.04%
Tonsils	1	0.01%

The data demonstrates that the vast majority of BSE cases found in Europe were due to prions from the cow-of-origin's brain tissue and spinal cord being consumed by other cows as part of feed rations. The nerves (ganglia) and lower part of the small intestine (distal ileum) are responsible for even less. The risk of being infected with BSE by consuming the eyes or tonsils of an affected cow are almost negligible.

## **Accepted Parameters Concerning SRM**

There is no territorial legislation specifically dealing with SRM, yet the current accepted *parameters* concerning SRM in the Yukon Territory can be summarized as follows:

Liquid and solid waste products from the slaughter operation must be handled, transported and disposed of in compliance with relevant federal regulations and in a manner appropriate for each processing site.

It is important to note that the while SRM are not considered by any Canadian agency or governmental department to be “hazardous material”, the variety of programs and policies in place to help monitor, contain or destroy SRM are to prevent any possibility of cattle consuming them. For more information, please refer to the following website:

<http://inspection.gc.ca/english/anima/diseases/bseesb/enhreh/hazmate.shtml>

The only agency specifically tasked with oversight of SRM management in Canada is the Canadian Food Inspection Agency (CFIA).

As per CFIA regulations that currently exist, SRM:

- must be permanently contained or destroyed, as per federal requirements and under CFIA oversight unless the SRM do not leave the farm of origin.
- If the SRM do not leave the farm of origin, they can be managed on farm without CFIA permits, approval or oversight. The operator who keeps the SRM on his/her site is not required to stain SRM or place them in a designated container.
- The Health of Animals Regulations allows for small abattoirs and cattle producers to dispose of SRM on the site where the animals are slaughtered or found dead without the need for a CFIA permit.
- When there is no CFIA oversight to ensure proper segregation from non-SRM bovine material, the CFIA may request to undertake various measures such as record-keeping and spot checks.
- Beef carcasses that are over thirty-months of age at the time of death are deemed to contain SRM unless they are split and the spinal cord removed. Therefore movement from the abattoir to a cut-and-wrap facility would require a CFIA transport permit, and the cut-and-wrap facility would also require a permit to

receive and handle it. This is not required if slaughter and processing occur on the same site.

- Abattoir operators are required to keep detailed records of SRM for animals from off site. Volumes handled by their plant as well as methods to dispose of SRM must be kept daily and include the date, weight of SRM generated, name of the dye used to mark the SRM, numbers from the Canadian Cattle ID Agency (CCIA) tags, the date the SRM is transported off the site, the name and contact information of the person transporting the SRM off-site, and the destination of the SRM. These records must be kept for 10 years.
- Any movement off-site requires a permit from the CFIA for transportation and the SRM must be disposed of in a permitted manner and at a permitted site.
- Adequately and completely composted SRM may not be applied to crops to be used for human consumption, or on land to be grazed by ruminants within 5 years after the compost application.
- If SRM are to be transported to another site for disposal, they must be stored in dedicated containers clearly and indelibly marked in both official languages "Specified Risk Material/ Matériel à risque spécifié" or "SRM/ MRS" and the material itself must be thoroughly stained with blue meat dye. This is done under surveillance by the CFIA inspector on site. The presence of the CFIA inspector confirming that the remaining solid waste is non-SRM enables more options for disposal than those available for SRM.
- If SRM are to be disposed of on-site, marking and staining is not required.
- Any material that comes in contact with SRM must also be treated as if it were SRM.
- SRM is banned from all animal feeds, pet foods and fertilizers.
- No landfills in the Yukon Territory are permitted by the CFIA to receive SRM. The Bessborough Landfill in Dawson Creek, BC accepts SRM. The Coronation Landfill in south central Alberta only accepts rendered or composted SRM.
- CFIA has permitting procedures for collection, transportation, processing, construction, receipt, use or export of SRM. This includes procedures for disposal of SRM at a landfill - the owner/operator of the landfill must submit an application for a permit to the local CFIA district office. The permit application

requirements include: relevant municipal and provincial licenses (i.e. operating certificate); detailed site plan; operating procedures and the results of any recent analysis or verifications relevant to containment of SRM. Following receipt of this information a CFIA inspector will then conduct a site inspection and review the permit application.

Ultimately, the disposal of Specified Risk Material (SRM) is the responsibility of the farmer/abattoir operator. If SRM do not leave the farm of origin, they can be managed on farm without CFIA permits, approval and oversight. The operator who does not remove SRM from his/her site is not required to stain SRM or place them in a designated container.

The term “site” needs some elaboration. The CFIA has defined "site" as being contiguous properties, whether or not there is a public access or right-of-way which traverses the properties. Therefore, this definition excludes properties located some distance away. However, the farmer/small abattoir operator may obtain an annual CFIA permit to transport SRM to this non-contiguous site. This permit would allow the CFIA to track the records of the weights and final disposal site information of the SRM. In addition, the receiving site would require an annual permit to receive the SRM and would be required to meet defined minimal requirements as outlined on the permit.

The CFIA evaluates permit applications for non-contiguous sites on a case-by-case basis. After receiving such an application and performing an on-site inspection, the Area/Regional Animal Health Program Specialists forward their recommendation to a senior staff veterinarian at the CFIA national headquarters. For consistency purposes, Area Specialists may be consulted in assessing the application prior to the final decision taken by the senior staff veterinarian at national headquarters.

A farmer or small abattoir operator may be permitted to dispose of (by burial or compost) SRM on a non-contiguous piece of land under the following minimal conditions:

1. The total number of over thirty month (OTM) cattle slaughtered and found dead is low – approximately seven (7) head a week or less;
2. Transportation of SRM from the farm/abattoir is conducted under an annual CFIA transport permit, and

3. Reception of SRM at the non-contiguous site is conducted with an annual CFIA receiving permit.

Once the appropriate permits have been applied for, a CFIA inspector will request the following information:

- the transporter's name, address, phone number, and e-mail address;
- a description of the conveyance used to transport the SRM (license plate of truck or description of tarp/bucket);
- the SRM permit number of the site that will be receiving the SRM (unless it is the farm of origin of an animal dying in transit);
- the number of carcasses and approximate weight of SRM being transported; and
- CCIA tag number(s).



## **Disposal of SRM**

When SRM are moved off-site from where they were generated, they must either be permanently contained or destroyed using one of only a few approved methods. From a perspective of public perception, destruction is preferred although this is more difficult and more expensive than containment. Currently, SRM generated in the territory is shipped out for containment through burial.

Landfilling/burial is regarded as permanent containment by the CFIA. However, SRM can only be landfilled at certain sites permitted by the CFIA. Such a permit is only granted if the site meets fairly onerous physical and operations requirements. For public landfills, there is not much incentive for the local government to seek and obtain such a permit. There are no public landfills in the territory that are permitted to accept SRM. Composting of SRM is allowed by the CFIA in recognition that it reduces the volume of material and transforms the organic material into a more stable state. However, the final compost is still regarded as SRM. Land on which composted SRM has been spread must not have bovines grazing on it for five years. Further, if it is off-site (from where the SRM was generated) then the compost could only be moved off site under a CFIA permit to a location that has also been permitted by the CFIA. Destruction options for SRM are more expensive and include gasification and incineration.

- Composting is a good process to denature many non-prion pathogens. SRM compost must be treated differently than regular compost, it is best to compost SRM separately to allow the option of burial or spreading the SRM compost in a place where cattle will not graze for at least five years.
- If destruction is preferred, the best solution for destruction is incineration in Yukon.
- Some see destruction as a preferred solution over containment, since the SRM are completely eliminated so there is no chance of consumption by bovines.
- Other possible destruction methods include gasification, alkaline hydrolysis, thermal hydrolysis, anaerobic digestion, and burning in cement kilns.

\* It is important to note that permits are not required to appropriately deal with SRM at the location they are generated.



## **Recommended Management: Composting**

Recycling abattoir wastes and using appropriate technology to generate agronomic supplements from them has been practiced over many generations due to the abundance and high content of nutrients available. Abattoir wastes represent concentrated sources of nutrients and their land application can be seen to supply nitrogen at levels similar to ammonia (NH<sub>4</sub>) or nitrate (NO<sub>3</sub>) based fertilizers. Globally, it is clear that there has been an increase in cost for fertilizers. This trend has renewed interest in reducing on-farm nutrient losses and fertilizer input costs. When seen in the relevant context of a growing awareness of safe and cost-effective disposal methods for agricultural by-products including offal and carcasses, one cannot help but turn towards composting as an excellent option for achieving these aims.

Composting properly requires following a set of chronological steps and the right “recipe” or blend of feedstocks. Material to be composted should be stored in a covered container prior to composting. Subsequently, the composting should take place so as to prevent generating odour, attracting wildlife, or leaching. Composting must be conducted in a way that prevents potential contamination of any watercourse or domestic water source. The surface upon which composting occurs should be impermeable and able to withstand normal operational wear and tear. A carbon source needs to be included along with nitrogen sources to aid in the composting process. The abattoir operator should ensure that the resulting finished compost does not contain identifiable animal parts or more than 1% foreign matter. Screening is generally the final step for finished compost. Partially composted material that has been screened out may be returned to the compost pile for further breakdown.

Compost, the Organic Farmer's Gold, from the Canadian Organic Growers Organic Field Crop Handbook describes 4 general methods for composting. The methods can be used for small garden plots, large acreages and larger processing plants.

Yukon, historically, has a drier climate but also a longer, colder winter compared to southern regions. For composting, this is not necessarily an issue. Farming is a seasonal venture and composting can be carried on throughout the summer and fall into the early winter months. The compost made one year can be used the following season. Through planned rotation, adequately aged compost can always be available.

COG's Organic Field Handbook describes the following 4 options in detail:

- passive (open pile) composting,
- aerated passive composting,
- windrow composting,
- contained, in-vessel composting.

Most urban gardeners carry on passive composting as a general way to improve soil conditions. Small piles of garden refuse and lawn clippings are accumulated. Kitchen waste and leftovers can be added to this pile. This method is generally used for smaller composting jobs and the pile can be turned by hand with a garden fork to promote aerobic decomposition and reduction in size. Organic matter such as meat scraps can be added to the pile, for those who wish, and they will be broken down easily. Careful consideration must be used to prevent heavy metal contamination or introduction of chemicals or pharmaceutical drugs into the pile. Contamination by these or cleaning agents may kill the flora of the pile and lead to an anaerobic condition.

In the Yukon, passive open pile composting can be utilized for small-scale urban gardens or farms. The limiting factor in the success of this method of composting is the size of the pile. Small piles are usually turned manually. If the pile is too large and doesn't get sufficiently turned, the pile can overheat and kill the microflora in the pile. With too small a pile, it is difficult to generate enough heat for decomposition and the pile can easily dry out. Composting with a passive open pile, however, is low technology and a very inexpensive option since the only cost is the cost of a garden fork and perhaps some mesh to go around the pile to keep it tidy, along with the labour to turn and monitor the pile.

Aerated compost piles or compost windrows are usually larger in size and incorporate pipes like those used in septic fields to provide adequate passive ventilation in the pile. Pipes laid at the base of the pile, perpendicular to the windrow can provide additional air into the compost. If the pipes are laid parallel in the windrow forced ventilation through the pipes might be required. Ventilated piles or windrows are required in high moisture climates or conditions.

In the Yukon, with the drier climate, moisture might need to be added to an aerated compost pile to keep it from drying out. Additionally this is traditionally a seasonal process from early summer to early winter with the compost being ready for a late fall application that same year or early the following spring. The pile needs to be monitored for temperature and moisture content to achieve proper decomposition. Winter composting is possible if the pile or windrow is

large enough because of the additional heat the pile will create. The pile can also be covered to keep snow moisture from accumulating, melting into the pile, and subsequently freezing.

The cost of this slightly larger composting system would be for the grade work needed to ensure leachate does not enter into the water system, the ventilation pipes and air handling fan, if required, plus a loader and operator to arrange the pile and spread it onto a field when composting is complete.

For a windrow compost system that does not include added ventilation, mechanical windrow turners can be utilized to achieve the best shape and mix for the windrow. An example is the Aeromaster Compost Windrow Turner (<http://midwestbiosystems.com/compost-windrow-turner>). This implement can also be used to inoculate the pile with microbes and add water if necessary. The drawbacks to using a windrow turner are the cost of the implement and the size of the tractor (80-140hp) required to pull it. Using a compost windrow turner would be worth the expense for large operations producing 10,000 tons or more of compost per season such as the system in use at the Whitehorse dump, but would likely not be feasible on many of the smaller farms such as those commonly found in the Yukon.

On small farms, windrow composting can be effectively accomplished using a loader to push the pile over when needed into a new windrow. Most small farms already have the small tractor with front-end loader that would be needed. In addition, such a system would require suitable flat ground, water (if needed) and protection from weather, if required.

Essential to the process of composting is the protection of the pile to maintain proper moisture levels of 60 to 65%. Excess moisture, drying out, insufficient turning, access to the pile by wildlife or other farm animals can interfere with effective composting. Excessive moisture can create anaerobic conditions within the windrow and can leach out pathogens which would have been destroyed during aerobic decomposition. If the windrow gets too dry, decomposition will slow down and may eventually stop.

Compost piles should be located close enough to the main activity centre of the farm operation so that the pile can be regularly monitored. If there is insufficient carbon substrate present for the amount of high nitrogen materials, or a lack of turning to help distribute oxygen to the pile, anaerobic conditions can produce odours which may attract wildlife. Should such a situation occur, it is important that the farmer be aware of it so that it can be dealt with quickly to prevent removal of any partially decomposed animal parts which might contain still-active pathogenic organisms from the windrow. Locating the pile at a

distance of 450 m from residences would make this essential monitoring difficult.

A well-constructed windrow with proper carbon-to-nitrogen (C:N) ratios, moisture content, suitably sized carbon substrate and adequate carbon substrate covering should generate minimal odour and should not attract wildlife.

In-vessel composting is a fairly new approach to composting. There has been quite a bit of recent development and there are a variety of vessels being used from the smaller home or kitchen use such as those offered by Lee Valley Tools (<http://www.leevalley.com/us/garden/page.aspx?cat=2&p=33140>) to much larger commercial units such as those distributed by XAct Composting Systems (<http://xactsystemscomposting.com/mobile-system/>). Several homemade in-vessel composting drums are currently operating or under development in the Yukon. These offer excellent alternatives to pile or windrow composting. In-vessel composting offers a quicker way to aerate, mix and compost organic matter and, based upon the size of the barrel, a lot of compost can be produced in a relatively short period.

The drawbacks to mechanical composting surround the simple mechanics of the operation, the cost of the implement and approval for use by regulatory bodies. The large barrels require some sort of power source with either a motor powered by fuel or electricity to rotate the drums either continuously or on a regular basis. If the barrel is not large enough, or is not rotating regularly, it can freeze solid when the weather is cold enough. The mechanical system requires constant, or at least consistent, supervision; unlike compost piles or windrows. Smaller compost barrels do not require as much supervision but if they are left un-rotated for any length of time, a fly pest problem can arise during warm weather. Prices for barrel composters can range from next to nothing for a recycled plastic drum to tens of thousands of dollars for a large commercial unit.

Large hog and dairy operations on the prairies using large vessel composting require a dedicated employee with training and an adequate power source along with the necessary loading equipment. Here in the Yukon, moderately sized equipment could be utilized since volumes are much lower, providing power is available. The unit would need to be situated close to buildings for the supervision required and power source. Further research is on-going to establish baseline data and operating criteria for a colder climate.

Any of these composting methods could be done year round inside a ventilated building. Some can be done year round outside with adequate volume and

attention to protecting the compost with windbreaks and/or coverings. The heat generated within a large volume of compost can provide a substantial amount of heat to keep from freezing providing there is not a large snow pack on top melting and freezing.

#### Carbon-to-Nitrogen (C:N) Ratios

A main factor in achieving great compost is ensuring that the ratio of carbon to nitrogen sources in the pile is from 25 to 30 parts carbon to 1 part nitrogen. No material is all carbon or all nitrogen, but generally those materials that are more green, or more wet, like grass clippings, slaughter wastes, or poultry manure tend to be higher in nitrogen. Those materials which are more brown, or more dry, like leaves, straw, or shavings, tend to be higher in carbon. Many experienced composters believe that to make good compost, it is essential to incorporate some materials which have passed through a digestive tract. This helps to inoculate the material with beneficial microflora. The more varied the materials are in the pile, the easier it will be to have the correct conditions for optimal compost production.

Carbon-to-nitrogen ratios may need to be adjusted depending on the bioavailability of nitrogen or carbon in the material. This is commonly an issue with high carbon materials, which are often derived from wood and other lignified plant materials, as increased lignin content reduces biodegradability. Smaller particles degrade more quickly than large particles of the same material so it is useful to shred or chip materials that are being used for compost. Using a nitrogen source such as fertilizer is not recommended since the nearly instant availability of nitrogen can exceed the assimilative capacity of the microbial community and be lost as ammonia odors and nitrate in leachate. If there is doubt about the C:N ratio, it is better to err on the side of a little too much carbon than too much nitrogen.

## Approximate Carbon and Nitrogen Values of Common Compost Materials

(listed in order from with materials high in nitrogen to materials high in carbon)

<b>Material</b>	<b>C:N ratio</b> weight to weight	<b>% Nitrogen</b> dry weight	<b>% Moisture</b>
Blood (fresh)	3.5:1	13.5	78
Fish (racks and offal)	3.6:1	10.6	76
Slaughter waste (mixed)	3:1	8	75
Laying hen manure	6:1	8	69
Grass clippings	17:1	3.4	82
Pig manure	14:1	3.1	80
Sheep manure	16:1	2.7	69
Vegetable waste	19:1	2.7	87
Broiler litter	14:1	2.7	37
Poultry carcasses	5:1	2.4	65
Cattle manure	19:1	2.4	81
Cull potatoes	18:1	2.1	80
Hay	22:1	2.1	9
Coffee grounds	20:1	2.0	65
Food waste (garbage)	15:1	2.0	69
Potato tops	25:1	1.5	80
Horse manure	30:1	1.6	72
Leaves	54:1	0.9	38
Straw	99:1	0.7	12
Sawdust	400:1	0.4	30
Bark (softwood)	500:1	0.14	30
Cardboard (shredded)	550:1	0.10	8
Newsprint	600:1	0.10	5
Wood (chips or shavings)	550:1	0.09	5

The values provided here can be used to calculate the proper combination for the ideal moisture content of 60 to 65% or to calculate the proper combination for the ideal C:N ratio. A sample calculation for each are provided using two different compost feedstocks. The more variety in the pile the better, but calculations are shown for poultry carcasses and straw. Choose something near the bottom of the list to balance ingredients near the top of the list.



**Sample carbon-to-nitrogen calculation  
(to calculate the ideal C:N ratio of 30:1 when using poultry carcasses and straw)**

<b>Poultry carcass</b>	<b>So one pound of poultry carcass (P) contains:</b>
Moisture = 65%	Water = 0.65 lb
	Dry Matter (1 – 0.65) = 0.35 lb
Nitrogen = 2.4%	Nitrogen (0.35 x 0.024) = 0.0084 lb
C:N ratio = 5:1	Carbon (0.0084 x 5) = 0.042 lb

<b>Straw</b>	<b>One pound of straw (S) contains:</b>
Moisture = 12%	Water = 0.12 lb
	Dry Matter (1 – 0.09) = 0.88 lb
Nitrogen = 0.7	Nitrogen (0.88 x 0.007) = 0.0062 lb
C:N ratio = 99:1	Carbon (0.0062 x 99) = 0.61 lb

$$\text{Carbon ratio} = \frac{(\text{weight of carbon in carcass} + \text{weight of carbon in straw})}{(\text{weight of nitrogen in carcass} + \text{weight of nitrogen in straw})}$$

If we want a ratio of C:N of 30:1, we can calculate the weight of hay to add for each pound of carcass.

$$30 = \frac{(0.042 + 0.61S)}{(0.0084 + 0.0062S)}$$

$$30(0.0084 + 0.0062S) = (0.042 + 0.61S)$$

$$0.252 + 0.186S = 0.042 + 0.61S$$

$$0.252 - 0.042 + 0.186S - 0.186S = 0.042 - 0.042 + 0.61S - 0.186S$$

$$0.21 = 0.424S$$

$$0.21 \div 0.424 = S$$

$$0.5 = S$$

So a half pound of straw should be added for every 1 pound of poultry carcass.

### **Sample moisture calculation**

**(with this proportion of straw to poultry carcass to get the proper carbon to nitrogen ratio, we will check the moisture content to see if water needs to be added)**

Moisture content =  $\frac{\text{weight of water in carcass} + \text{weight of water in straw}}{\text{Total weight}}$

$$MC = \frac{0.65 + (0.12 \times 0.5)}{1 + 0.5}$$

$$MC = 0.47$$

Or a moisture content of 47%. Since the ideal moisture in the compost is 60 to 65%, water should be added.

### **Safety Concerns and Practical Applications**

Based on more than ten years of personal experience and information from other farms that process animals on farm, it is evident that having a compost pile within a relatively close proximity to the operation is essential.

The benefit of composting over burial was proven for us several years ago when we used a burial system, in a remote area, for a farm mortality. Even with the recommended excavation and cover, wildlife dug down and disturbed the carcass. An electric fence erected around the site might have helped prevent this disturbance, but providing electricity at a distance from the farm home site poses logistical and economic challenges.

Another drawback is maintaining access to the remote site during winter months for observation. Burial or use of an open pit, while recommended by the government for the disposal of the waste, really only serves to keep the problems that arise, out of sight and at a distance. The simple fact is that burying or disposal in an open pit actually invites scavenging because the anaerobic decomposition of the carcass causes odour. Since some farms are situated in remote regions, there is a higher incidence of wildlife activity in the area so any 'gut pile', buried or in a pit regardless of a temporary electric fence, is an open invitation for scavenging.

Larger carnivores such as wolves or bears do not respect a mesh net electric fence with a solar charger and a more substantial fence and charging system would be required to adequately protect a remote site. Ravens and raptors can enter the pit from the air so an electric fence is not a deterrent. More discussion needs to occur as to whether “waste disposal” sites should be located 450 m from any residence, but regardless of the result of that conversation, there should not be a remote site requirement for composting. A properly maintained compost site will not attract wildlife and can be best maintained and supervised in close proximity to the remainder of the farm operations.

Effective composting provides the easiest and most appropriate solution to the issue of attracting wildlife. Reasonable buffers for the protection of water sources could be set around a compost pile. Many jurisdictions within Canada do not set buffers from compost to any residence because the compost pile is properly not defined as a solid waste stream.

Having the compost in close proximity to the processing facility provides quick and easy access so the offal does not substantially degrade prior to incorporating it into the pile. The pile needs to be carefully monitored for temperature and moisture content with a testing tool such as would be used to test moisture when baling hay or straw. ( <https://farm.spectrum-nasco.ca/product.htm?Product=C28717NY&Source=Category&Category=FR%20-%20MOISTURE%20METERS> or <http://www.enasco.com/product/C30355N> ).

With the correct C:N ratio of 30:1 and a moisture level of 60-65% the compost pile should reach a sustained temperature of 65°C for several days. Turning the pile and repeating this process three or more times will provide the essential ingredients for complete decomposition. The correct temperature will destroy pathogens such as E coli and weed seed. Higher temperatures result in substantial losses of nitrogen through ammonia gas. Too much moisture and the pile will cool, leachate will form and anaerobic conditions will result. If the pile is too dry, the composting process will take a lot longer to occur. All of these issues require moderate supervision on a fairly regular basis.

If there is an issue with farm animals at large being interested in the compost pile, the simple solar powered electric mesh fence can work well enough as a deterrent. With adequate coverage over any offal in the compost pile there is no issue with avian intrusion. A properly mixed and

maintained pile will achieve about half of its original size after several months. Leaving it longer provides an even more valuable and stable component of soil called humus.

The requirements of close monitoring, turning, adding water, high carbon substrate or more offal necessitates that the whole process be within easy access to the center of farm operations. If electric fencing is required for wildlife using grid or generator power, the distance from the power source needs to be minimal.

In our case the use of livestock guardian dogs such as Maremmas, Kangal, Akbash, Great Pyrenees or Tibetan Mastiff have been very effective. The dogs provide a natural deterrent to wildlife because of their barking and innate guardian nature. They do not actively seek out prey nor do they engage wildlife unless they are threatened. They will bark and challenge and by doing so we have never encountered wildlife disturbing the nearby compost although we did when mortalities were buried a substantial distance away. The dogs themselves do not interfere at all with a properly maintained compost pile.

Composting of by-products from on farm meat processing needs to be distinguished from solid waste in the current regulations. It is unreasonable to be required to obtain a commercial dump permit to compost offal or mortalities on farm. The composting process needs to be monitored effectively and it provides the best possible natural amendments needed to build soil.

The recommendation here is that although an abattoir review through YESAB is currently a requirement, a suitable composting plan should be accepted and the distance required should be based upon water sources and not due to interaction with wildlife and residences. Properly monitored composting procedures dictate a closer proximity than 450 metres. By-product from on-farm meat processing intended to be composted needs to be accepted without being designated as solid waste requiring a dump permit.

It is important to note that restrictions only apply to compost containing SRM. This compost cannot be applied to crops for human consumption or on land to be grazed by ruminants within five years. For this reason, SRM should be composted separately.

Other composting options include vermicomposting and fly-larvae production. Vermicomposting is well known for home use, but can also be used on a larger scale. Vermicomposting is a mesophilic process that combines the use of microorganisms and earthworms to break down organic waste materials into earthworm castings which, like regular compost, reduce the need for chemical fertilizers and reduce the volume of wastes by 40 – 60%. Composting through fly-larvae production, or grub composting, is more of a bioconversion process than true composting. The process uses a native species, Black Soldier flies, to consume organic waste and in a very short period of time produce a small amount of friable compost, compost tea, and a much larger quantity of self-harvesting grubs used to feed fish or birds.

**Advantages:**

- farm-based abattoirs in other jurisdictions which compost on-site spend less than half than for having the same quantity of material picked up by a renderer,
- cheaper than incineration,
- generates a source of nutrients for crops,
- minimal training is required for successful composting,
- specialized equipment is not required beyond that normally found on a farm,
- accepted by CFIA as a method to render the SRM into a more stable state for final disposal.

**Disadvantages**

- requires compliance with environmental regulations,
- requires an acceptable location based on environmental conditions,
- does not destroy the abnormal prions responsible for BSE so compost containing SRM requires further disposal or management,
- the high water content of these materials, and pathogen, vermin, and odour issues complicates large-scale examples. These issues are more manageable in small scale composting such as would exist here in Yukon.

## **Other Management Techniques**

Whether or not disposed of on site, all waste outdoors must be stored in wildlife-proof containers, and an electric fence must surround outdoor storage, handling and disposal areas (including burial pits and incinerators) to ensure that garbage is not accessible to wildlife. There is no substitute for prevention of human-wildlife contact.

### **Rendering**

Rendering involves mechanical, thermal and/or chemical treatment of solid livestock slaughter waste and whole carcasses to produce pelletized soil additives or animal feedstock such as meat and bone meal (MBM) and tallow (fats and oils). SRM must be removed prior to rendering. MBM is used as a non-ruminant stock feed or fertilizer, and the tallow can be used in the pharmaceutical, cosmetic and soap industries, as well as in animal feeds. Parts from the slaughtering process that aren't consumed as food can be used to feed animals such as dogs. Some trappers or dog team owners are interested in acquiring these.

Rendering treats the carcass at high temperatures and pressures to remove water and fats. The remaining meat and bone meal is then ground up into a fine powder and can be used as a fertilizer. The renderer must ensure that high enough temperatures and pressures are reached to kill all viable pathogenic organisms and must keep a complete record.

### **Advantages**

- costs associated with disposal by rendering are lower in comparison to some other options though significantly higher than composting the waste on-site as part of the farm operations,
- considerably reduces the volume of material for disposal although it does not destroy the abnormal prion. SRM must be removed and dealt with separately,
- beneficial by-products are generated during the rendering process,
- destroys most pathogens,
- can create a value added by-product.

### **Disadvantages**

- is a means of reduction, not destruction. Rendering does not destroy the BSE prion so SRM must be removed or rendered products containing SRM require further disposal or management,
- scale required for a successful business model would be difficult to achieve,
- facilities for rendering are not currently available in the Yukon.

## **Gasification**

Gasification is a process that converts organic materials (including animal remains) into carbon monoxide, hydrogen, carbon dioxide and methane. This is achieved through a chemical reaction of the material at high temperatures, without combustion, with a controlled amount of oxygen and/or steam. It involves raising the temperature of the input to over 850°C for 15 minutes or more, which is the CFIA requirement to successfully destroy the prion responsible for BSE. The organic matter is reduced to ash. The by-product gas mixture is referred to as a synthetic gas and is used as a fuel. The power derived from the gasification of biomass and combustion of the resultant gas is considered renewable energy.

Tests in British Columbia have demonstrated that the emission gases involved in gasification meet the standards for municipal waste disposal.



### **Advantages**

- at the correct temperature, gassification is accepted by CFIA as a means of prion destruction. As such, there are no further regulatory requirements to dispose of the ash,
- has the benefit of energy generation,
- reduces the volume of waste by 90 to 93%
- may be used to process other waste streams.

### **Disadvantages**

- costs for setting up as well as operation and maintenance are very high,
- raw slaughter waste is likely to have a negative energy value due to high moisture content. The ability of plants to handle this material is variable.
- waste disposal is not traditionally part of the core business of gasification plants. Tipping fees would likely be significant to cover the added costs associated with obtaining the appropriate approvals to receive material and other related costs.
- operators in other parts of Canada tend to be under close scrutiny from the public and may be reluctant to accept material that could create conflict and public-relations problems,
- Facilities for gasification are not currently available in Yukon.

## **Controlled Incineration**

The CFIA requires SRM to reach a temperature of 850°C or above, for at least 15 minutes and until all organic matter has been reduced to ash. Incineration meets this target. In fact, incineration destroys most pathogens (sterilizes the waste) including the prions responsible for BSE, as it can reach temperatures in excess of 1000°C.

Incineration reduces volume by approximately 90% - 93% and the resultant ash is considered prion-free, as long as the incineration is conducted correctly. Thus, for slaughter waste containing SRM, if the correct burn is achieved, there would be no requirement for CFIA approval or permitting in the disposal of the ash to landfill, or for its use as a soil amendment. A CFIA permit would be required, however, to receive and incinerate SRM.

In addition to no longer posing a risk to human health directly, the CFIA Science Directorate determined that SRM incineration presents a negligible risk of transmission of bovine spongiform encephalopathy (BSE) to other domestic ruminants, including other cows by performing a comprehensive risk assessment on this method of destruction. Based on the conclusion of this risk assessment, output from approved incinerators is not regulated by SRM controls, provided that it can be demonstrated that the ash produced does not contain amino acids (the building blocks of prions).

### **Advantages**

- with the correct infrastructure, the heat created may be a valuable energy source,
- two pet crematoriums already exist within the city of Whitehorse. An assessment of their equipment would need to be undertaken to determine if they are capable of meeting the CFIA incineration requirements for the destruction of SRM.

### **Disadvantages**

- raw slaughter waste can have a negative energy value due to the high moisture content,
- there may be resistance to incinerators by the public,
- meeting emissions standards can be an obstacle for some incinerators.
- requirement for high temperatures (850° to 900°C) required to destroy prions may be difficult to attain, particularly if higher volumes or large pieces (carcasses) are fed into the system,
- a typical model that could be used in the Yukon (Inciner8 Model A2600) costs over \$60,000 new, \$34,250 for installation, parts, service and transport, and a further \$5,000 annually for emissions monitoring.

## **Open Burning**

As of January 1<sup>st</sup>, 2012, open burning is no longer permitted as an approved waste disposal solution in the Yukon Territory. This is primarily motivated by the fact that air emissions targets are not reached with this method according to Yukon Environment.

An Air Emissions Permit must always be obtained from the Yukon Environmental Programs Branch for burning more than five kilograms per day of garbage either in the open or in an incinerator. Due to the nature of slaughter waste, this is not really a viable option without the addition of much more combustible material.

## **Burial and Containment**

The CFIA has approved landfill and on-site burial as suitable methods for long-term containment of SRM. Burial is a commonly used option for farmers although, if used for all slaughter waste, valuable nutrients are discarded. The CFIA is generally satisfied that the SRM component is suitably contained on the farm using burial methods. The primary regulatory restrictions relating to burial of SRM are that the landfill must be covered immediately after use, it must have a means of keeping out wildlife, and records must be kept of the locations and volumes buried.

### **Advantages**

- landfill/burial is accepted by CFIA as a permanent method of containment of the abnormal prion that is responsible for BSE, provided that the landfill structure and operation meets the requirement for leachate, etc. There is a negligible risk to human or animal health, or of the transmission of BSE to other domestic ruminants.
- fairly simple and relatively low cost (if suitable land is available),
- burial of SRM containing compost eliminates the issue of which crops can have SRM-containing compost applied,
- when SRM is buried where the bovine is processed, the CFIA structural and operational requirements do not apply. Provided that the soil structure minimizes leaching and annual precipitation is low, burial is a reasonable and safe method of disposing of the small volumes of SRM generated by on-farm slaughter.

### **Disadvantages**

- must be carefully managed to minimize risk of disease transmission and pollution,
- may pose the risk of contaminating groundwater,
- the permitting and regulatory requirements are a deterrent to landfills accepting SRM waste. There is considerable public opposition to existing landfills receiving animal waste in general and SRM waste in particular.
- constructing a dedicated animal waste landfill is unlikely due to public opposition, high costs, high water tables, insufficient volumes, and extensive regulatory and permitting requirements along with the high labour cost to maintain.
- the BSE prion is contained but not eliminated so continued monitoring is required to ensure compliance with regulations.
- landfill or on-site burial of slaughter waste can create odour and vector control problems.
- land for burial may be limiting for some operations.
- is a containment method rather than a destruction method.

## **Anaerobic Digestion**

Similar to composting where aerobic organisms break down materials in the presence of oxygen, anaerobic digestion involves the breakdown of materials by organisms in the absence of oxygen within a specialized containment unit. Anaerobic digestion was originally used to treat biodegradable waste and sewage sludge. This process is generally used for industrial or domestic purposes to manage waste and has the added benefit of releasing energy. The first stage of the anaerobic digestive process is bacterial hydrolysis which serves to break down insoluble organic polymers such as carbohydrates and make them available for acidogenic bacteria. These acidogenic bacteria then convert the sugars and amino acids into carbon dioxide, hydrogen, ammonia and organic acids. Acetogenic bacteria then convert these resulting organic acids into acetic acid, along with additional ammonia, hydrogen, and carbon dioxide. Finally, methanogens convert these products to methane and carbon dioxide.

### **Advantages**

- at high temperatures, anaerobic digestion destroys pathogenic bacteria at considerably higher levels than aerobic digestion,
- when used as part of an integrated waste management system, anaerobic digestion reduces the emission of landfill gas into the atmosphere,
- anaerobic digestion produces biogas consisting of methane and carbon dioxide. This biogas can be used directly as cooking fuel, in combined heat and power generating engines or can be upgraded to natural gas quality biomethane. Of most relevance to Yukon farmers, the nutrient-rich digestate that is produced can be used as a fertilizer.

### **Disadvantages**

- composting may be more efficient than anaerobic digestion methods,
- the technical expertise required to maintain industrial scale anaerobic digesters along with high capital costs and low process efficiencies have so far limited the industrial application of this waste treatment technology,
- facilities for anaerobic digestion are not currently available in Yukon.

## **Alkaline and Thermal Hydrolyses**

Alkaline and thermal hydrolyses are processes developed for the disposal of human remains. These processes are claimed to be more ecologically favourable than cremation. In the alkaline hydrolysis and thermal hydrolysis disposal processes, the carcass is loaded into a “resomator”. The machine is filled with a mixture of water and lye, and heated to a high temperature (around 160°C to 180°C). It will be noted that this does not meet CFIA requirements of 800°C, but the alkaline hydrolysis and thermal hydrolysis process the input at very high pressures (400 kPa to 1200 kPa respectively) inside an enclosed pressure vessel. The carcass is effectively broken down into its chemical components, which takes about three hours. The end result is a quantity of green-brown tinted liquid (containing amino acids, peptides, sugars and salts) and the soft, porous white bone remains (in the form of calcium phosphate), which are easily crushed in the hand.

The CFIA Science Directorate performed a risk assessment on these two methods of disposal of SRM and determined that this method of destruction, using specific operating parameters, presents a negligible risk of transmission of bovine spongiform encephalopathy (BSE) to domestic ruminants. Therefore, alkaline hydrolysis and thermal hydrolysis are acceptable methods of permanent destruction of abnormal prions that may be present in SRM. Both processes are approved by the CFIA as a destruction method.



### **Advantages**

- is an acceptable method of prion destruction under the correct conditions,
- produces beneficial by-products,
- is odour and pollution-free when conducted correctly,
- alkaline hydrolysis produces cleaner emissions than incineration, and is more likely to be accepted by the public over landfill or incineration,
- more suited to small-scale application than some other methods,
- can process many waste streams in a short space of time.

### **Disadvantages**

- is a very expensive technology, with a high technical knowledge requirement,
- requires considerable volume to make it worthwhile,
- although tested in Europe, more work on this method is needed in Canada,
- facilities for alkaline hydrolysis and thermal hydrolysis are not currently available in Yukon.



## **Liquid Management**

In other jurisdictions, liquids from slaughter operations can be trucked to a disposal site or lagoon. This isn't currently a permitted or accepted practice in the Yukon.

Environmental health has several options and recommendations. For any abattoir there must be a separate waste stream for domestic sewage (such as sinks, toilets, showers) from liquids from the kill floor or processing rooms. The issue with using a septic system or composting system for liquids from slaughter operations is the use of disinfectants in the working areas. These disinfectants will destroy the microflora necessary for proper breakdown of materials. It would be appropriate to find a biologically acceptable disinfecting agent that would provide the necessary sanitation yet not interfere with biological decomposition. This might alleviate the need for separate liquid waste streams.

One option uses graduated screening mechanisms and grease separators located upstream from the septic system. The CFIA currently requires a four millimetre screen to keep SRM from entering the septic system. This ensures that SRM that might possibly have been in the liquid are removed so the liquid (now SRM-free) can flow freely into the field for absorption.

Another option is a leach pit engineered to accommodate the amounts and volumes of material and existing ground conditions and location. Again, the use of disinfectants needs to be appropriately managed to not inhibit microfloral activity. The design would need the approval of Environmental Health engineers.

Slaughter liquid from a tank can be applied to compost subject to approval by Environment Yukon. The issue of chemical disinfectants would again need to be carefully managed to protect the intense microflora, and fungal population necessary for proper composting.

The Organic Production Systems Permitted Substances list has a number of alternatives to chemical disinfectants, which should be considered as alternatives. Their use might not be as detrimental to the microflora in either a septic system or compost situation.

Grease traps have undergone technological advances and there are currently some available that can gather waste oil (perhaps carcass fats as well) and separate them from the waste water well enough to be entered into fuel energy stream. (<http://www.goslyn.ca> GOSLYN Environmental systems).

## **Appropriate Abattoir Management Practices**

Liquid and solid waste products (including SRM) from the slaughter operation need to be handled, transported and disposed of in compliance with relevant regulations and in a manner appropriate for each processing site. There exist, however, a number of good management practices which, when applied in terms of pre-treatment, can lessen the environmental impact of abattoir waste and potentially increase the availability of value-added products. Some of these practices may require additional technology or labour, yet provide some attractive options.

These practices may include:

- Primary screening to remove any solids or fats.
- SRM separation with appropriately sized screens.
- Fat/oil removal by flotation and skimming.
- Primary settling.
- Blood separation (protein recovery).
- Waste effluent balancing.
- pH correction (chemical correction).
- Ultra-filtration and reverse osmosis.
- Anaerobic lagoons.
- Aerobic ponds.
- Settling ponds.



## **Value-added Products**

Value-added products refer to the process of adding value to the sale price of raw agricultural ingredients such as vegetables, fruit, or livestock. This can be accomplished by a variety of methods. The goal is for the farmer to derive more income from the end product than they otherwise would. Selling directly to consumers rather than wholesale is one way to add value since more of the final selling price is captured by producers. Utilizing materials previously thought of as waste to produce a saleable product is another way to add value. Preparing products for consumption also adds value. Making sausages, jerky, or other processed meats and cutting and wrapping meat for the customer adds value over sales of whole, live animals. This can be seen as an added incentive for farmers to be operators of their own micro-abattoirs and processing facilities. The Yukon has many examples of value-added products.

The following items which have previously been thought of as abattoir wastes which result from on-farm animal slaughter can be seen in a different light, as a value-added product:

- composting non-food slaughter material, including blood and waste water, keeps nutrients on-farm and reduces the need for importing soil amendments
- hides can be processed into leather, raw-hide or fur-on hides for direct sale or for the production of additional items such drums, mitts, gloves and hats
- animal trimmings, offal, bones, and feet can be used as pet food or in pet food manufacture
- solids such as hair, feathers, bones, or offal can be composted
- hooves can be sent out for gelatin recovery
- crushed bones can be used as soil amendments.





## **Procedure for on-farm Slaughter**

### **Farm Gate (Uninspected Slaughter)**

If the slaughter process is not to be inspected, that is, for home consumption or for farm-gate sale, no permits are required.

1. Animal is killed and bled using a humane method that ensures a minimum of stress.
2. Animal is skinned (or in the case of pigs, can be scalded and scraped). Hide is further processed into leather, raw-hide, or hair-on hide.
3. Animal is eviscerated and edible parts harvested. For beef, SRM are removed and kept separate.
4. Useful slaughter by-products are harvested and remainder is composted.
5. Sides are hung to cool and age, and then meat is cut and wrapped.

### **Inspected Slaughter**

In order to process meat on-farm and obtain an inspected product, an approved abattoir must be used. This can be the mobile abattoir or other approved facility.

For the mobile abattoir:

1. Apply for permission to have the mobile abattoir operate on your farm (Department of Agriculture Application for On-Farm Operation of a Mobile Abattoir *See Appendices*) This includes approval of the processes described in the application by Health and Social Services, Environmental Programs branch and Agriculture branch.
2. Obtain water samples and submit for testing (Environment Health)
3. Written approval from Environmental Health must be obtained for the proposed method of transportation.
4. The Health Officer must give approval for the method(s) of disposal for solid and liquid waste generated by the operation of the mobile abattoir.

#### Other Approved Facility:

1. An approved facility is subject to all building codes, and must conform to Order in Council 1988/104 Agricultural Products Act for meat inspection and abattoir regulations.
2. Apply for abattoir permit (Agriculture branch – Application for License for the Operation of an Abattoir *See Appendices pg 115*)
3. Submit application to operate an abattoir and respond to inquiries  
(Yukon Environmental and Socio-economic Assessment Board – Form 1 – section 18 *See Appendices pg 103*)
4. Apply for commercial dump permit (Environment Yukon – Permit for a Landfill, Transfer Station or Commercial dump *See Appendices 86*)
5. Apply for septic field permit (Environmental Health)  
OR - Submit plans for leach pit design and subsequent permit (Environment Health)
6. Obtain water samples and submit for potable water testing (Environment Health)
7. Apply for inspection and approval of composting system (Environment Yukon)
8. Plant inspection (Environment Yukon)
9. Obtain meat processing license (Environmental Health)
10. Kill floor process inspection (Canadian Food Inspection Agency)
11. Slaughter inspection (Meat Inspector)
12. Slaughter by-product composted (Farmer/Operator)
13. Record keeping (Farmer/Operator)

#### **Non-Bovine**

Anything not being used as a value-added product can be composted. Follow instructions for composting starting on page 33 of this document.

#### **Bovine under 30 months**

Remove the distal ileum (last metre of the small intestine) and treat as SRM. Compost separately and bury or spread on area that will not be grazed by bovines for five years.

Anything else not being used as a value-added product can be composted. Follow instructions for composting starting on page 33 of this document.

**Bovine over 30 months**

Remove the head (including skull, brain, tonsils, eyes, trigeminal ganglia), spine and dorsal ganglia (one inch either side of the spine), and distal ileum (last metre of the small intestine). Treat as SRM. Compost separately and bury or spread on area that will not be grazed by bovines for five years.

Anything else not being used as a value-added product can be composted. Follow instructions for composting starting on page 33 of this document.



## **Gaps and Challenges**

There is very little information directly pertinent to Yukon available with regards to micro-abattoirs and waste disposal since the industry here is still very small. This territory is a region with very specific climactic, geographic and demographic factors even when compared with other sub-Arctic, remote regions. Thus, much of the regulatory and practical information garnered from other parts of Canada or other countries needs to be modified in relation to Yukon.

Additionally there is the obstacle of a lack of infrastructure. Not only are there few abattoirs of any kind (one small fixed abattoir near Dawson and one mobile facility in the Whitehorse area), but there does not exist in Yukon a great deal of the technological infrastructure to process slaughter wastes using alternative means. Costs for land and shipping costs for bringing in technologically intensive equipment are high in the Yukon. Costs for implementing technology such as a micro-gasifier or a micro-incinerator on such as small scale as is currently available in the Yukon is likely to be much higher than in outside jurisdictions.

Pet crematorium options currently available may not have sufficient volume capacity for livestock carcasses and assessment of the equipment would need to be undertaken to determine if they are capable of meeting the CFIA incineration requirements for the destruction of SRM.

There is currently a gap with landfill operations that needs to be addressed. There is a lack of clear and concise direction and a discrepancy between Yukon Environment solid waste regulation and permitting and practice by existing landfills. There is a refusal to permit disposal of either solid or liquid slaughter waste, although it is recognized that slaughter wastes are arriving at the landfill through transfer stations or by delivery as “household waste”.

Slaughter wastes are considered by Yukon Environment in the same way as industrial wastes such as oil and natural gas refinery byproducts, municipal waste, chemical byproducts, and radioactive water used as coolants in nuclear power plants and as such require a commercial dump license even though on the permit application, the types of solid waste are defined as household, construction, concrete/asphalt or other. On the permit application, the only options for disposal of solid waste include transporting the waste off-site, burial, or burning (which is no longer permitted).

The current Environment Yukon requirement is for the location of a burial pit to be 450 metres from a residence and 90 metres from a road allowance. This requirement means that a buffer of 200 plus acres would be needed for on-farm processing including use of the mobile abattoir. This is not reasonable and would prevent any single-property farm from on-farm processing.

Best practice, however, for most Yukon producers is for on-farm composting of slaughter waste and separate on-farm composting of SRM followed by on-farm burial.

## **Recommendations**

The establishment of a body (such as the meat processors infrastructure working group) to review recommendations and support implementation of up-to-date information and streamline the permitting process for on farm slaughter and management of by-product streams.

- group is represented by sectors of the existing animal industry and relevant government agencies.
- work cooperatively and collaboratively to simplify the permitting requirements for a slaughter facility to enable increased meat production in the Yukon.
- examine graduated slaughter plant licensing similar to BC's to offer remote or under serviced locations the opportunity to provide food security.
- create a realistic slaughter by-product policy that will remove it from being solely identified as a solid or liquid waste product.
- research the types of disinfectants available to determine which ones have the greatest efficacy both in bacterial control and ability to break down quickly before destroying the microflora essential in compost or septic systems.
- develop research data for multiple smaller scale abattoirs
- create pilot project for examining the efficacy of on-farm composting of slaughter by-products.

This report has demonstrated the need for work to be done. A waste management strategy for on-farm meat processing is within the industry's grasp when all levels and departments of government and industry communicate their needs effectively. Meat processing and the agricultural sector need to be supported by the agriculture department in communicating with other government departments and YESAB.

This document outlined deficiencies in the application process and suggests how to build this sector of the industry. As long as people in the Yukon choose to have meat in their diet, there will be an increasing need to provide a locally grown sustainable source. This encourages local processing facilities to provide both safe farm-gate and inspected product to an increasing number of consumers. There needs to be a streamlined process in place to deal with processing by-products. Whether it is poultry, beef,

pork, lamb, goat or other meat, the processing facilities require a broader scope to take the by-product out of a waste stream consciousness and utilize it as a valuable end-product.

The idea that one plan will fit every situation is untenable partly because of the nature of the application process. Every time any application is submitted to YESAB, that application becomes a part of precedent, which means each subsequent application evaluation is based on changing parameters. This includes all industries in the process. Some government departments do not have an adequate policy, stating that each application will be reviewed on a case-by-case basis. These deficiencies need to be rectified by the relevant government departments.

The focus of this report is for on-farm processing, which is currently the only type of processing occurring in the Yukon. The intent of this project has been to provide a culmination of all the permitting applications and appropriate technology in a single report so producers could select a waste management method from the report that suits their farming regime for regulatory compliance and food safety.

Farms in the Yukon operate within distinct microclimates, soil conditions, and environmental constraints. Operators have personal constraints in time, resources and distinctive farming styles. Government departments each have their own biases and recommended practices. A single management system will not fit every operation. Alternative strategies are offered so that processors can make a choice.

This document illuminates some of the issues facing the meat production industry and provides a basis for subsequent work. Agriculture Branch staff and the Yukon chief veterinary officer agree that this could provide the impetus to examine some of the bottlenecks and to provide stimulus for solutions. There are many issues that still need to be resolved. This report does, however, provide an analysis of waste management strategies for an on-farm processor.

There is no doubt that on-farm waste management solutions are needed and this report is an initial step in the process.



## **Summary and Conclusion**

Recycling slaughter by-products and using appropriate technology to generate agronomic supplements from them has been practiced over many generations due to the abundance and high content of nutrients available.

Increased diversification into pastured livestock would enable Yukon farms to advance agriculturally, financially, demographically and sustainably. In times of increasing fuel costs, petroleum based fertilizer cost have increased to the point where composting manure and slaughter by-products into soil amendments is a necessary and attractive practice.

This waste management plan outlines gaps, strategies and recommendations for dealing with slaughter by-products in a productive and sustainable manner. Livestock producers are currently underutilizing available inspected slaughter facilities for a variety of reasons. It would be of great benefit for both food sustainability and food sovereignty in the territory to implement a policy and permitting process that facilitates safe processing on-farm.

It is important that agri-food industry stakeholders have a clear understanding of the requirements for food safety and the potential for disease transmission so that risks can be minimized. If legislation, regulation, policy and permitting procedures are streamlined and clearly defined, this will prevent confusion and ensure that the process meets or exceeds federal and territorial food safety standards as well as environmental concerns.



## Contacts

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## **Applications and Forms**

Attached as appendices are the various forms that would be applicable to a farmer who wishes to operate a micro-abattoir on his/her property and manage the slaughter waste on-site. They are:

### **Solid Waste Regulations and Air Emissions Regulations – Application for a Permit for a Landfill, Transfer Station or Commercial Dump**

Consultation usually takes place as part of the Yukon Environmental and Socio-Economic Assessment Act (YESAA) process.

(Since composting, done properly, does not constitute a discharge into the environment of a pollutant, composting on-site should not require such a permit. Burial of SRM (or SRM compost), however, might.)

- Category 1: Permit application for an activity on private land that has no impact on adjacent land or the public. (Consultation: No consultation with affected interests required)
- Category 2: Permit application for an activity of local or regional nature with local or regional interest or impact. (Consultation: Affected interests are to be notified of the permit application and asked to review and/or comment. The Environmental Programs Branch will determine on a case-by-case basis who is to provide the notice and in what form, in accordance with Requirements for a Published Notice detailed below. The minimum review period will be 14 days.)
- Category 3: Permit application for an activity of great interest to the public or which applies to the entire territory or large part thereof. (Consultation: Affected interests are to be provided with a copy of the permit application for review and/or comment. The Branch will determine if the applicant or the department shall publish a notice regarding the permit application in two or more editions of one or more Yukon-based newspapers that reach most residents in the territory. The minimum review period will be 30 days.)

### **Consolidated Application for Environment Act Permits**

The previous application form may be substituted by the consolidated form if there are more than one Yukon Environment Act permits being applied for (such as the air emission permit and the commercial dump permit). This form consolidates requirements of all of the Yukon Environment standard application forms. Individual permit application forms may be directed to apply using the Consolidated Application form.

It is the responsibility of the applicant to ensure that they obtain all required permits for their activities under the *Environment Act* and all other relevant legislation and regulation, whether or not their application is consolidated. The guidelines for filling out this form can be found at: [http://www.env.gov.yk.ca/monitoringenvironment/documents/consolidated\\_application\\_guidelines\\_may2010.pdfm](http://www.env.gov.yk.ca/monitoringenvironment/documents/consolidated_application_guidelines_may2010.pdfm)

### **Yukon Environmental and Socio-Economic Assessment Board – Form 1**

This is a generic form submitted to YESAB for assessment on any project that is proposed to be undertaken (this would apply for any abattoir operation). In 2005, the Yukon Environmental and Socio-Economic Assessment Act (YESAA) established an environmental assessment regime for a significant number of different types of projects. During the assessment process, the public and all levels of government are able to submit project-specific comments and to suggest ways to mitigate any potential negative environmental and/or socio-economic effects. These comments and suggestions are taken into consideration by the Yukon Environmental and Socio- Economic Assessment Board in formulating their recommendations for the project.

### **Application for Permit to Remove, Use, Convey, Treat, Store, Sell, Distribute, Confine or Destroy Specified Risk Material (SRM) Under the Health of Animals Act**

This form is submitted to the CFIA for the purposes of dealing with the SRM (only if the SRM is being moved off-site). Currently, the Yukon Agriculture Branch is the only body which possesses a permit for the transport of SRM



### **Application for On-Farm Operation of a Mobile Abattoir**

According to Yukon Environment, this form should be filled out by the consumer who wishes to purchase meat from the farmer-operator of a micro-abattoir (due to the absence of another form)

### **Air Emissions Regulation – Application for an Air Emissions Permit, Part 1 – General**

This is the generic Yukon Environment consolidated form that all parties must sign who intend to either open burn or incinerate waste. This applies only to farmers who wish to dispose of the non-SRM material and/or the SRM material using an incinerator. Yukon Environment would need to check whether currently available incinerators meet the necessary standards. Permits under the Air Emissions Regulations are required only if more than five kilograms of waste are to be burned or incinerated per day.

### **Air Emissions Regulations – Application for an Air Emissions Permit (Burning)**

This Yukon Environment form must also be filled out by parties who specifically wish to burn or incinerate solid waste. Please note that as of January 1<sup>st</sup> 2012, Yukon Environment will no longer permit “open burning” as a disposal method for waste of any kind, including solid waste. Permits under the Air Emissions Regulations are required if more than five kilograms of waste are to be burned or incinerated per day.

### **Declaration by Owner-Producer regarding SRM and Age of Animal**

This is a generic form devised by the author. The form is intended to clarify whether the bovine that is being slaughtered is below 30 months of age, or above 30 months of age. This is for the purposes of ascertaining which parts of the animal are deemed to be SRM, as this distinction is very much age-dependent (as described earlier in this report). The intention of this form is just to achieve transparency.





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<http://www.gov.yk.ca/legislation/acts/environment.pdf>

Yukon Meat Inspection and Abattoir Regulations (Agricultural Products Act)  
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## **Appendices**

- Application for a Permit for a Landfill, Transfer Station or Commercial Dump – Yukon Environment – page 86
- Consolidated Application for Environment Act Permits – Yukon Environment – page 92
- YESAB Form 1 – Yukon Environmental and Socio-Economic Assessment Board – page 103
- Application for Permit to Remove, Use, Convey, Treat, Store, Sell, Distribute, Confine or Destroy Specified Risk Material (SRM) under the Health of Animals Act – Canadian Foods Inspection Agency – page 113
- Application for License for the Operation of an Abattoir – Yukon Agriculture branch – page 115
- Application for On-Farm Operation of a Mobile Abattoir – Yukon Agriculture branch – page 117
- Application for an Air Emissions Permit – Yukon Energy – page 123
- Application for an Air Emissions Permit (Burning) – Yukon Energy – page 127
- Declaration by Owner-Producer regarding SRM and Age of Animal – page 130



**APPLICATION FOR A PERMIT  
FOR A LANDFILL, TRANSFER STATION OR COMMERCIAL DUMP**

- > Applicants should ensure that they:
  - are familiar with the *Solid Waste Regulations* and the *Air Emissions Regulations* under the *Yukon Environment Act*;
  - complete all applicable sections of this form, legibly printing or typing all information;
  - complete the signature block at the end of the form and
  - submit all required attachments, including the permit fee.
  
- > A pre-permit inspection may be conducted prior to the issuance of any permit.
  
- > An assessment of the activity you are undertaking may be required under the *Yukon Environmental and Socio-Economic Assessment Act* (YESAA).
  
- > Additional information may be required upon receipt of this application.

The original and signed application form should be mailed or delivered to your local government office, or:

Environmental Programs Branch (V-8)  
 Environment Yukon  
 Box 2703 (located at 10 Burns Road, Whitehorse)  
 Whitehorse, Yukon Y1A 2C6

For additional information:

Phone: (867) 667-5683 or 1-800-661-0408 ext. 5683 Fax: (867) 393-6205  
 Web: <http://environmentyukon.gov.yk.ca/monitoringenvironment/> E-mail: [envprot@gov.yk.ca](mailto:envprot@gov.yk.ca)

**SOLID WASTE** includes waste which originates from residential, commercial, industrial or other human-related activities or sources and includes litter but does not include special (hazardous) waste, sewage, untreated brush or wood products that are not mixed with other materials. Permits are not required to transport solid waste off site.

**PLEASE READ CAREFULLY AND FILL OUT ALL APPLICABLE SECTIONS.  
ATTACH ADDITIONAL PAGES AS NEEDED.**

**> PART 1.0 – CONTACT AND SITE INFORMATION**

**A. Name and address of applicant**

*The applicant is the person or business in whose name the permit will be issued. This form may be filled out and signed by either the individual carrying out the permitted activity(ies), a representative of the business carrying out the permitted activity(ies), or a consultant/contractor working for them provided that they have written permission from the applicant to do so on their behalf. In that case, attach the written authorization to this permit application.*

Contact name and position title	Phone #
Business name or government agency/branch/department	Fax #
Mailing Address	Postal Code
Email address	

**B. Who is directly responsible for the management of solid wastes at the site location?**

same as (A) above, or: *(For multiple contacts, list on a separate sheet).*

Contact name and position title	Phone #
Business name or government agency/branch/department	Fax #
Mailing address	Postal Code
Email address	

**C. Where is the site located?** (For multiple site locations, list on a separate sheet).

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Legal Address

\_\_\_\_\_  
Geographic Coordinates

**D. Who owns the land on which the activities are being carried out?**

same as (A) above, or: (For multiple site locations, list on a separate sheet).

\_\_\_\_\_  
Name Email Phone #

**E. Is the land leased? If so, by whom is it leased?**

same as (A) above, or: (For multiple site locations, list on a separate sheet).

\_\_\_\_\_  
Name Email Phone #

**F. Which of the following activities are to be undertaken by the applicant at the site location?**

Check all that apply. Incinerating means combustion in an incinerator, which is equipment used for the burning of waste or contaminated soil where the air intake and combustion temperatures may be controlled. Open burning means the combustion of material without control of the combustion air and without a stack or chimney to vent the emitted products of combustion to the atmosphere.

- Transporting solid waste off site
- Burying solid waste on site
- Burning / Incinerating solid waste on site
  - Open burning more than 5 kg/day of solid waste
  - Operation of an incinerator capable of burning more than 5kg/day of solid waste

**G. Is your project subject to review under the Yukon Environmental & Socio-economic Assessment Act (YESAA)?**

- Yes: YESAA Project Number or date application will be submitted: \_\_\_\_\_
- No

**H. What community(s) or area(s) does this site service?**

\_\_\_\_\_  
\_\_\_\_\_

**I. Approximately how many people use this site regularly?**

\_\_\_\_\_  
\_\_\_\_\_

**J. What volume of solid waste collected at this site? (tonnes or m<sup>3</sup> per week, month, or year).**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**K. What is the approximate life span of this site? \_\_\_\_\_**

**L. What are the types and volumes of solid waste generated or handled at this site, and what will be done with them?** Provide information for all categories that apply.

Type of solid waste	kg/day	Transfer	Bury	Burn	Incinerate
residential (e.g. kitchen wastes, packaging, cardboard)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
construction / demolition (e.g. drywall, electrical, piping)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
concrete / cement / asphalt		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (describe):		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**M. How and where will the wastes be stored prior to transfer, burial, burning or incinerating?**

*Be specific (e.g. solid wastes will be stored in animal-proof bins at the transfer station prior to transport, etc.).*

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**N. Describe any current or future plans for waste segregation or recycling.**

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**O. Describe any current environmental monitoring of the land, air or ground / surface water.**

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**P. Is there a closure / decommissioning / reclamation plan for this site?**

- Yes *(please attach)*  
 No

**Q. Is there a spill response plan for this site?**

- Yes *(please attach)*  
 No

**R. Is there a contingency/emergency plan for this site?**

- Yes *(please attach)*  
 No

**S. Is there a hydrogeological assessment for this site?**

- Yes *(please attach)*  
 No

**T. Identify the type(s) of security / wildlife control measures that are in place at this site:**

fence: height: \_\_\_\_\_  
type (chain link, snow fence, etc.): \_\_\_\_\_  
around what (entire camp, burn pit, storage shed, etc.): \_\_\_\_\_

electric fence: height: \_\_\_\_\_  
gate style (Texas, rigid swinging, etc.): \_\_\_\_\_  
around what (entire camp, burn pit, storage shed, etc.): \_\_\_\_\_

signs *(describe wording and locations)*: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

attended gate *(identify hours of operation)*: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**U. Please Attach:**

- a) A sketch or drawing showing the general layout of the site including buildings, storage tanks (showing identification numbers and contents), waste storage areas, recycling/reuse areas, burial pits, burn pits, incinerator(s), etc.; and

- b) A map or aerial photograph, on a scale of 1:50,000, showing the location and size of the site and the distance to the nearest residences, human activities, adjacent facilities, roads, watercourses, and other environmentally sensitive areas.
- V. List any other Permits or Approvals that have been obtained for this site (e.g. special waste permit, air emissions permit, relocation permit, land treatment facility permit, land use permit, etc.):
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**> PART 1.1 — TRANSFERRING SOLID WASTE OFF SITE**

- A. To which permitted landfill / transfer station will the wastes be transferred for disposal?
- \_\_\_\_\_
- B. Have you confirmed with the operator of the facility that your wastes will be accepted?
- No
- Yes: Who did you get confirmation from? \_\_\_\_\_ Date: \_\_\_\_\_
- C. How often will the wastes be transferred to the offsite facility?
- \_\_\_\_\_
- D. Will all of the solid waste from your site be transferred to a landfill?
- Yes
- No: Complete Parts 1.2 to 1.5 as appropriate.

**> PART 1.2 — BURIAL OF SOLID WASTE ON SITE**

- A. Where will the wastes be buried? Identify the location and the distance to any watercourses, structures, etc. on the site diagram. Add any other pertinent information here:
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- B. Provide information on the construction of the burial pit or cell (e.g. depth and dimensions of the pit, soil type, soil permeability, thickness of liner, etc.).
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- C. Depth to groundwater at burial location (specify feet or metres): \_\_\_\_\_
- \*Note: Landfill operators are required to submit a hydrogeological assessment with this application (see 1.0.S).*
- D. What cover material will be used and how often will it be applied? \_\_\_\_\_

**> PART 1.3 — BURNING/ INCINERATING SOLID WASTE**

A. Provide details of the schedule for burning and incineration of solid waste.

Usage details:	Burning	Incinerating
How often will burning/ incinerating occur?		
Will the burning/ incinerating be done in batches or continuously?		
What is the estimated mass (in kg) of solid waste that will be burned/incinerated during each batch or cycle?	kg	kg
If applicable, what is the approximate mass of solid waste that will be burned/incinerated on a daily basis?	kg/day	kg/day

**B. Describe any measures to be taken to reduce the amount of air emissions released from the facility and/or the concentrations of contaminants in the air emissions. Provide manufacturer's specifications for any emissions control equipment to be used, if available.**

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**C. Describe any equipment or devices to be used to monitor the release of contaminants into the air at the point(s) of release. Provide manufacturer's specifications if available. Include information on contaminants monitored, monitoring frequency, action levels and responses, and any other relevant information.**

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**D. Describe any measures to be taken to mitigate the effects of the release of air contaminants on the surrounding environment.**

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**E. What will be done with the ash generated from burning or incineration?** *If different for different types of wastes, list waste type and ash disposal method.*

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**F. Identify any analyses that will be performed on the ash from each waste type to determine its characteristics.**

Type of solid waste	Analyses to be performed

**> PART 1.4 - OPEN BURNING OF SOLID WASTE**

**A. List the specific types of solid waste that will be open burned and the method to be used to burn them (for example: trench, drum, burning vessel).** *If different methods will be used for different waste types, please specify.*

Waste type	Method of open burning

**B. Describe any plans to phase out open burning of solid waste. Attach separate sheets if necessary.**

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**> PART 1.5 - INCINERATING SOLID WASTE**

**A. Provide (as an attachment) the manufacturer's specifications for the incinerator, including diagrams and/or pictures as available.**

**B. Provide (as an attachment) a set of plans/drawings of the facility clearly showing the layout of the following as they apply:**

- The location of relevant process equipment,
- The point or points of discharge to the atmosphere,
- Building dimensions,
- Stack heights,
- The north and prevailing wind directions, and
- The scale or approximate scale of the drawing.

I, \_\_\_\_\_ [print name clearly], certify that I am the authorized representative of \_\_\_\_\_ [business/person to be named on the permit], and that the information provided on and with this application form in its entirety and on all attached documents is correct and complete to the best of my knowledge.

\_\_\_\_\_  
Signature of applicant                      Date                      # of attachments

This information is being collected under the authority of section 9 of the *Solid Waste Regulations* and section 11 of the *Air Emissions Regulations*. Permits and related documents may be included on a public register as required by these regulations and/or disclosed to the public. For further information contact the Environmental Programs Branch at (867) 667-5683 or toll free at 1-800-661-0408 extension 5683.

**Print Form**

**Clear Form**

- > Applicants should ensure that they:
  - are familiar with the *Air Emissions Regulations, Solid Waste Regulations, Special Waste Regulations and Storage Tank Regulations* under the *Yukon Environment Act*;
  - are familiar with the accompanying instruction sheet "*Environment Act Consolidated Permit Application Guidelines*";
  - complete all applicable sections of this form, legibly printing or typing all information;
  - complete the signature block at the end of the contact and site information section of this form; and
  - submit all required attachments, including the permit fee.
- > A fee of \$100 is payable to the **Government of Yukon** on submission of this application **if the applicant indicates that open burning or incineration will be undertaken.**
- > A fee in accordance with **Schedule 1 of the Storage Tank Regulations** is payable to the **Government of Yukon** on submission of this application **if the applicant indicates that a storage tank permit is required.**
- > There is no fee for the renewal or amendment of an active permit.
- > A pre-permit inspection may be conducted prior to the issuance of any permit.
- > An assessment of the activity you are undertaking may be required under the *Yukon Environmental and Socio-Economic Assessment Act (YESAA)*.
- > Additional information may be required upon receipt of this application.

**\*\*Important Note:** This form consolidates requirements on the standard application forms for Air Emissions, Solid Waste, Special Waste and Storage Tank permits that are relevant to activities expected to be most commonly carried out at small commercial/industrial operations (such as placer mines). This consolidated form is not designed to be used in all situations and has been provided as a convenience only. It is the responsibility of the applicant to ensure that they obtain all required permits for their activities, under the *Environment Act* and all other relevant legislation and regulations.

The original and signed application form should be mailed or delivered to your local government office, or:

Environmental Programs Branch (V-8)  
 Environment Yukon  
 Box 2703 (located at 10 Burns Road, Whitehorse)  
 Whitehorse, Yukon Y1A 2C6

For additional information:  
 Phone: (867) 667-5683 or 1-800-661-0408 ext. 5683 Fax: (867) 393-6205  
 Web: <http://environmentyukon.gov.yk.ca/monitoringenvironment/> E-mail: [envprot@gov.yk.ca](mailto:envprot@gov.yk.ca)

**PLEASE READ CAREFULLY AND FILL OUT ALL APPLICABLE SECTIONS.  
 ATTACH ADDITIONAL PAGES AS REQUIRED.**

**> PART 1.0 – CONTACT AND SITE INFORMATION**

**A. Name and address of applicant**

*The applicant is the person or business in whose name the permit will be issued. This form may be filled out and signed by either the individual carrying out the permitted activity(ies), a representative of the business carrying out the permitted activity(ies), or a consultant / contractor working for them provided that they have written permission from the applicant to do so on their behalf. In that case, attach the written authorization to this permit application.*

Business name or government agency / branch / department to appear on the permit	Phone #
Contact name and position title	Fax #
Mailing Address	Postal Code
Email address	

**B. Who is directly responsible for the activity(ies) requiring the permit(s)?**

same as (A) above, or: *(For multiple contacts, list on a separate sheet).*

Business name or government agency / branch / department	Phone #
Contact name and position title	Fax #
Mailing address	Postal Code
Email address	

**C. Where is the site located?** (For multiple site locations, list on a separate sheet).

Street Address (Civic Address)

Legal Address

Geographic Coordinates

**D. Who owns the land on which the activities are being carried out?**  same as (A) above, or:  
(For multiple site locations, list on a separate sheet).

Name

Phone #

**E. Is the land leased, by whom is it leased?**  same as (A) above, or:  
(For multiple site locations, list on a separate sheet).

Name

Phone #

**F. Which of the following activities are to be undertaken by the applicant at the site location?**

Check all that apply. If you are undertaking an activity that is not listed here, you may need to fill out a different form.

**SOLID WASTE**

- Transporting solid waste off site
- Burying solid waste on site
- Burning / Incinerating solid waste on site
  - Open burning more than 5 kg/day of solid waste
  - Operation of an incinerator capable of burning more than 5kg/day of solid waste

**SPECIAL WASTE (HAZARDOUS WASTE)**

- Generating, handling or storing special waste on site
- Transporting special waste off site
- Disposing of waste oil on site in a waste oil burner

**STORAGE TANKS**

- Construction (installation) of a new storage tank system
- Alteration of an existing storage tank system
- Operation of a storage tank system
- Replacement of a storage tank system
- Abandonment of a storage tank system
- Removal of a storage tank system
- Closure of a storage tank system

**G. Is your project subject to review under the Yukon Environmental & Socio-economic Assessment Act (YESAA)?**

- Yes: YESAA Project Number or date application will be submitted: \_\_\_\_\_
- No

**H. Is there a closure / decommissioning / reclamation plan for this site?**

- Yes (please attach)
- No

**I. Is there a spill response plan for this site?**

- Yes (please attach)
- No

**J. Is there a contingency / emergency plan for this site?**

- Yes (please attach)
- No

**K. Please Attach:**

- a) A sketch or drawing showing the general layout of the site including buildings, storage tanks (showing identification numbers and contents), waste storage areas, recycling / reuse areas, burial pits, burn pits, incinerator(s), etc.; and



- b) A map or aerial photograph, on a scale of 1:50,000, showing the location and size of the site and the distance to the nearest residences, human activities, adjacent facilities, roads, watercourses, and other environmentally sensitive areas.

I, \_\_\_\_\_ *[print name clearly]*, certify that I am the authorized representative of \_\_\_\_\_ *[business/person to be named on the permit]*, and that the information provided on this application form in its entirety and on all attached documents is correct and complete to the best of my knowledge.

\_\_\_\_\_  
Signature of applicant

\_\_\_\_\_  
Date

\_\_\_\_\_  
# of attachments

This information is being collected under the authority of Section 9 of the *Solid Waste Regulations*, section 9 or 16 of *Special Waste Regulations*, section 11 of the *Air Emissions Regulations* and/or section 10 of the *Storage Tank Regulations*. Permits and related documents may be included on a public register as required by these regulations and / or disclosed to the public. For further information, contact the Environmental Programs Branch at (867) 667-5683 or toll free at 1-800-661-0408 extension 5683.

**> PART 2.0 – SOLID WASTE**

**A. Will this dump site be used only for waste generated from the commercial activities of the applicant?**

- Yes
- No: complete the application for a solid waste disposal facility permit instead of this part of the form.

**B. How many people will be in camp at the site?** \_\_\_\_\_

**C. How long will the camp be in operation each year (weeks)?** \_\_\_\_\_

**D. What are the types and volumes of solid waste generated or handled at this site, and what will be done with them?** *Provide information for all categories that apply.*

Type of solid waste	kg / day	Transfer	Bury	Burn	Incinerate
residential (e.g. kitchen wastes, packaging, cardboard)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
construction / demolition (e.g. drywall, electrical, piping)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
concrete / cement / asphalt		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (describe):		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*\*Note: Special Wastes (e.g. waste oil, batteries, antifreeze, fuel, solvents) are addressed in Part 3.0.*

**E. How and where will the wastes be stored prior to transfer, burial, burning or incinerating?**

*Be specific e.g. kitchen wastes will be stored in a metal shed 100m from the kitchen; C&D wastes will be taken directly to the burial pit, etc.*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**F. Identify the type(s) of security / wildlife control measures that are in place at this site:**

- fence: height: \_\_\_\_\_  
 type (chain link, snow fence, etc.): \_\_\_\_\_  
 around what (entire camp, burn pit, storage shed, etc.): \_\_\_\_\_
- electric fence: height: \_\_\_\_\_  
 gate style (Texas, rigid swinging, etc.): \_\_\_\_\_  
 around what (entire camp, burn pit, storage shed, etc.): \_\_\_\_\_
- signs *(describe wording and locations)*: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

attended gate *(identify hours of operation)*: \_\_\_\_\_

\_\_\_\_\_

other: \_\_\_\_\_

\_\_\_\_\_

**G. Describe any current or future plans for waste segregation or recycling.**

\_\_\_\_\_

\_\_\_\_\_

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H. Describe any current environmental monitoring of the land, air or ground / surface water.

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**> PART 2.1 – TRANSFERRING SOLID WASTE OFF SITE**

A. To which permitted solid waste disposal facility will the wastes be transferred for disposal?

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B. Have you confirmed with the operator of the facility that your wastes will be accepted?

No

Yes: Who did you get confirmation from? \_\_\_\_\_ Date: \_\_\_\_\_

C. How often will the wastes be transferred to the offsite facility?

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**> PART 2.2 – BURIAL OF SOLID WASTE ON SITE**

A. Where will the wastes be buried? Identify the location and the distance to any watercourses, structures, etc. on the site diagram. Add any other pertinent information here:

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B. Provide information on the construction of the burial pit or cell (e.g. depth and dimensions of the pit, soil type, soil permeability, thickness of liner, etc.).

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C. Depth to groundwater at burial location (specify feet or metres): \_\_\_\_\_

D. What cover material will be used and how often will it be applied? \_\_\_\_\_

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**> PART 2.3 – BURNING / INCINERATING SOLID WASTE**

A. Provide details of the schedule for burning and incineration of solid waste.

Usage details:	Burning	Incinerating
How often will burning / incinerating occur?		
Will the burning / incinerating be done in batches or continuously?		
What is the estimated mass (in kg) of solid waste that will be burned / incinerated during each batch or cycle?		
If applicable, what is the approximate mass of solid waste that will be burned / incinerated on a daily basis:	kg / day	kg / day

- B. Describe any measures to be taken to reduce the amount of air emissions released from the facility and/or the concentrations of contaminants in the air emissions. Provide manufacturer's specifications for any emissions control equipment to be used, if available.**

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- C. Describe any equipment or devices to be used to monitor the release of contaminants into the air at the point(s) of release. Provide manufacturer's specifications if available. Include information on contaminants monitored, monitoring frequency, action levels and responses, and any other relevant information.**

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- D. Describe any measures to be taken to mitigate the effects of the release of air contaminants on the surrounding environment.**

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- E. What will be done with the ash generated from burning or incineration? If different for different types of wastes, list waste type and ash disposal method.**

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- F. Identify any analyses that will be performed on the ash from each waste type to determine its characteristics.**

Type of solid waste	Analyses to be performed

**> PART 2.4 – OPEN BURNING OF SOLID WASTE**

- A. List the specific types of solid waste that will be open burned and the method to be used to burn them (e.g. trench, drum, burning vessel). If different methods will be used for different waste types, please specify.**

Waste type	Method of open burning

**> PART 2.5 – INCINERATING SOLID WASTE**

- A. Provide (as an attachment) the manufacturer’s specifications for the incinerator, including diagrams and/or pictures as available.**
- B. Provide (as an attachment) a set of plans / drawings of the facility clearly showing the layout of the following as they apply:**
- The location of relevant process equipment,
  - The point or points of discharge to the atmosphere,
  - Building dimensions,
  - Stack heights,
  - The north and prevailing wind directions, and
  - The scale or approximate scale of the drawing.

**> PART 3.0 – SPECIAL WASTE**

- A. Will the applicant be handling any special wastes generated by others?**  
 No  
 Yes: complete separate application for a special waste management facility instead of this form.
- B. Will the applicant be disposing of any special wastes on site, other than waste oil in an approved waste oil burner?**  
 No  
 Yes: complete separate application for a special waste disposal permit instead of this form.
- C. List, in as much detail as possible, the types of special wastes being generated at the site, how they are generated, and whether they will be disposed of or treated on site, or transported to another location for treatment or disposal.**

Waste Type	Source (e.g. vehicle maintenance, storage tank bottoms, contaminated soil cleanup)	Transported Off Site	Disposed / Treated On Site
waste oil		<input type="checkbox"/>	<input type="checkbox"/>
waste lead-acid batteries		<input type="checkbox"/>	<input type="checkbox"/>
waste solvents		<input type="checkbox"/>	<input type="checkbox"/>
waste diesel fuel		<input type="checkbox"/>	<input type="checkbox"/>
waste gasoline		<input type="checkbox"/>	<input type="checkbox"/>
waste antifreeze		<input type="checkbox"/>	<input type="checkbox"/>
other:		<input type="checkbox"/>	<input type="checkbox"/>

*\*Attach information regarding the chemical / physical composition of each type of special waste (such as lab results, reports, TDG classification, or other relevant information), if available.*

- D. What is the approximate monthly rate at which each special waste will be generated, and how will it be stored before transport or (for waste oil only) incineration?**

Waste Type	Amount generated per month (specify units of measurement)	Container Type / Size e.g. 45gal drums, buckets, ASTs)	Volume Currently Stored
waste oil			
waste lead-acid batteries			
waste solvents			
waste diesel fuel			
waste gasoline			
waste antifreeze			
other:			

- E. The special waste storage and waste oil burning site(s) are located approximately:**  
 \_\_\_\_\_ metres from the nearest watercourse;  
 \_\_\_\_\_ metres from the nearest domestic or irrigation water well or reservoir;  
 \_\_\_\_\_ metres from the nearest dwelling, serviced lot or recreational area.

- F. What is the highest recorded water table at the special waste storage/waste oil burning site(s)?**  
 \_\_\_\_\_ metres

- G. List training provided to staff who handle special wastes (e.g. Transportation of Dangerous Goods course, WHMIS training, internal company training, etc.).

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**> PART 3.1 — TRANSPORT AND DISPOSAL OF SPECIAL WASTE**

- A. Who is responsible for transporting the special waste(s) from the generation site for disposal or treatment? *You must ensure that the transporter is permitted to transport these wastes. If there is more than one transporter, list on a separate sheet.*

the applicant, and/or:

Business name or government agency / branch / department Phone #

Contact name and position title Fax #

Mailing Address Postal Code

Email address

Wastes to be transported

- B. If any special wastes are to be transported by the applicant, please attach the following to the completed and signed application:

- 1) Proof of minimum \$2 million third-party liability insurance, covering personal injury and property damage without excluding impairment of the natural environment. If the insurance is contingent upon the use of specified vehicles, also submit proof that each vehicle to be used to transport special wastes is owned by the applicant, or if the vehicle is leased, written permission from the vehicle owner;
- 2) A detailed spill response plan covering all special wastes to be transported. A sample plan and a fact sheet describing spill response plans can be obtained from Environment Yukon.

*\*Permittees transporting special wastes will be required to submit manifests at the time of transport*

- C. Who is responsible for receiving the special waste(s) transported from the generation site for disposal or treatment? *You must ensure that the receiving site is permitted to accept these wastes. If there is more than one receiving site, list on a separate sheet.*

the applicant, and/or:

Business name or government agency / branch / department Phone #

Mailing address Postal Code

Email address Fax #

Wastes to be accepted at receiving site

- D. If you intend to dispose of waste oil by burning it, please provide the following details:

Type/Make of Waste Oil Burner: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

CSA/ULC#: \_\_\_\_\_

Intended use of heat from burner (e.g. if space heating, what structure?): \_\_\_\_\_

***\*Attach equipment specifications to this application***

**> PART 4.0 – STORAGE TANKS**

**A. Check all that apply:**

- Construction (installation) of a new storage tank system *(fill out Parts 4.0 and 4.1)*
- Alteration of an existing storage tank system *(fill out Parts 4.0 and 4.1)*
- Operation of a storage tank system *(fill out Parts 4.0 and 4.1)*
- Replacement of a storage tank system *(fill out Parts 4.0, 4.1 and 4.2)*
- Abandonment of a storage tank system *(fill out Parts 4.0 and 4.2)*
- Removal of a storage tank system *(fill out Parts 4.0 and 4.2)*
- Closure of a storage tank system *(fill out Parts 4.0 and 4.2)*

**B. Describe any contingency plans to be used in the event of a spill or a fire involving the products contained in the storage tanks or storage tank system, including a description of any equipment proposed to be used in such an emergency. Attach separate sheets if necessary.**

- Separate Contingency Plan attached; OR

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**C. Describe the closure and reclamation plans to be implemented once the storage tank or storage tank system is no longer in use. Attach separate sheets if necessary.**

- Separate Closure and Reclamation Plan attached; OR

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**D. How will tanks be cleaned and disposed of once they are no longer to be used? Attach separate sheets if necessary.**

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E. How will contaminated soil or water be delineated and cleaned up, if any is found?  
 Attach separate sheets if necessary.

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**> PART 4.1 — CONSTRUCTION, INSTALLATION, ALTERATION OR OPERATION OF STORAGE TANK SYSTEMS**

A. Provide the following details for each aboveground (AST) and underground (UST) storage tank that you propose to construct, install, alter or operate. Attach separate sheets if necessary.

Tank #	1	2	3
Type (AST/UST)			
Activity (construction, installation, alteration and/or operation)			
Tank Manufacturer			
Tank Serial/ Model Number			
Tank Approval Number			
Tank Capacity (in litres)			
Tank Contents (if petroleum, what type)			
Distance to Groundwater Table (specify feet or metres)			
Distance to Nearest Surface Water (specify feet or metres)			

B. What is the total number of storage tanks on-site (including the tanks identified above and any non-regulated tanks)?

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C. Is there a storage tank system design plan for this site?

- Yes (please attach)
- No



**D. Who is the business or person who will construct, alter or install the storage tank system?**

Same as applicant **OR:**

Business name or government agency / branch / department

Phone #

Contact name and position title

Fax #

Mailing Address

Postal Code

Email Address

**> PART 4.2 — REPLACEMENT, ABANDONMENT, REMOVAL OR CLOSURE OF STORAGE TANK SYSTEMS**

**A. If known, how long has the storage tank(s) been located at this site?** \_\_\_\_\_

**B. How long has the storage tank(s) been out of service?** \_\_\_\_\_

**C. Are any tank(s) being replaced, abandoned, removed or closed suspected to be or identified as leaking?**

No

Yes: provide details

\_\_\_\_\_  
\_\_\_\_\_

**D. Who is conducting the work?**  Same as applicant **OR**

Business name or government agency / branch / department

Phone #

Contact name and position title

Fax #

Mailing Address

Postal Code

Email Address

**Print Form**

**Clear Form**

# Appendix A

## Form 1 (section 18)

### Project Proposal

#### PART 1 - PROPONENT CONTACT INFORMATION

1.1 Proponent (Name or Company Name): \_\_\_\_\_

1.2 Project Title: \_\_\_\_\_

#### 1.3 Mailing Address:

Street Address or P.O. Box: \_\_\_\_\_

City/Town/Village: \_\_\_\_\_

Territory/Province: \_\_\_\_\_

Postal Code: \_\_\_\_\_

Country: \_\_\_\_\_

#### Street Address (if different from above):

Street Name and Number: \_\_\_\_\_

City/Town/Village: \_\_\_\_\_

Territory/Province: \_\_\_\_\_

Postal Code: \_\_\_\_\_

Country: \_\_\_\_\_

1.4 Contact Person: \_\_\_\_\_

Position: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Alternate Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Contact Method Preference:  e-mail  fax  email

**PART 2 – REQUIREMENT FOR AN EVALUATION UNDER YESAA**

2.1 Is your proposed project located in the Yukon?

- Yes
- No

2.2 Specify the Parts and Item numbers from Schedule 1 of the Regulations\* which apply to your proposed project.

√	Part	Item	Proposed Activity(s)
	1: Mining		
	2: Industrial Activities		
	3: Oil and Natural Gas		
	4: Energy and Telecommunications		
	5: Wildlife		
	6: Transportation		
	7: Nuclear Facilities and Nuclear Substances		
	8: Contaminants and Waste		
	9: Water		
	10: Fisheries		
	11: Air Emissions		
	12: National Parks, Park Reserves & Historic Sites		
	13: Miscellaneous		

\* Accessible Activities, Exceptions and Executive Committee Projects Regulations

2.3 Specify which of the following circumstances apply to your proposed project. (Check all applicable)

- Proponent is a federal agency or federal independent regulatory agency.  
Name of agency: \_\_\_\_\_
- Proponent has submitted an application for financial assistance for the project to a federal agency or federal independent regulatory agency.  
Name of agency: \_\_\_\_\_
- Proponent is a territorial agency, municipal government, territorial independent regulatory agency or first nation and an authorization or the grant of an interest in land would be required for the project to be undertaken by a private individual.

2.3 conf'd

- Proponent requires an authorization or the grant of an interest in land to undertake the project from (check and list all applicable):

<input checked="" type="checkbox"/>		Agency (Department)	Authorization (describe)
<input type="checkbox"/>	a federal government agency		
<input type="checkbox"/>	a territorial government agency		
<input type="checkbox"/>	an independent regulatory agency		
<input type="checkbox"/>	a municipal government		
<input type="checkbox"/>	a first nation		
<input type="checkbox"/>	the Governor in Council		

**PART 3 – PROJECT LOCATION**

**3.1 Latitude and Longitude or UTM Coordinates (UTM Zone \_\_\_\_\_) of proposed project**

NW Boundary \_\_\_\_\_ (lat/northing) \_\_\_\_\_ (long/easting)

NE Boundary \_\_\_\_\_ (lat/northing) \_\_\_\_\_ (long/easting)

SW Boundary \_\_\_\_\_ (lat/northing) \_\_\_\_\_ (long/easting)

SE Boundary \_\_\_\_\_ (lat/northing) \_\_\_\_\_ (long/easting)

Common or Traditional Location Name: \_\_\_\_\_

Quad/Block and Lot Number (if surveyed) \_\_\_\_\_

NTS Map Sheet #: \_\_\_\_\_

**3.2 Assessment District(s) that the proposed project will be located in (check all applicable):**

- Dawson (North)
- Mayo (Central)
- Haines Junction (Southwest)
- Watson Lake (Southeast)
- Whitehorse
- Teslin (South-central)

**3.3 First Nation territory(s) that the proposed project will be located in or in which it might have significant environmental or socio-economic effects (check all applicable):**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Carcross/Tagish | <input type="checkbox"/> Champagne & Aishihik | <input type="checkbox"/> Klucane                |
| <input type="checkbox"/> Kwanlin Dun     | <input type="checkbox"/> Liard                | <input type="checkbox"/> Little Salmon/Carmacks |
| <input type="checkbox"/> Necho Nyak Dun  | <input type="checkbox"/> Ross River Dena      | <input type="checkbox"/> Selkirk                |
| <input type="checkbox"/> Talian Kwach'an | <input type="checkbox"/> Teslin Tlingit       | <input type="checkbox"/> Trondek Hwech'in       |
| <input type="checkbox"/> Vuntut Gwitchin | <input type="checkbox"/> White River          | <input type="checkbox"/> Tedlit Gwich'in        |

**3.4 The proposed project will be located on:**

- settlement land
- non-settlement land
- both settlement and non-settlement land

Will the proposed project be located within the boundaries of a Yukon community?

- Yes
- No

**3.5 Will the proposed project be located on the Yukon North Slope?**

- Yes
- No

3.6 Is there a regional land use plan in effect at the location of your proposed project?

- Yes
- No

3.7 Identify the nearest community(s) to the proposed project location.

Name: \_\_\_\_\_ Distance from Project \_\_\_\_\_ km

Name: \_\_\_\_\_ Distance from Project \_\_\_\_\_ km

3.8 Identify the watershed(s) and drainage region(s) your proposed project will be located in: \_\_\_\_\_

\_\_\_\_\_

Identify any watercourse(s) or waterbody(s) nearby to your proposed project (if any):

\_\_\_\_\_

\_\_\_\_\_

#### PART 4 – PROJECT PURPOSE

Describe the purpose of the proposed project and any alternatives considered.

**PART 5 – PROJECT DESCRIPTION**

Describe in sufficient detail all applicable aspects of the planning, construction, operation, ongoing restoration activities, decommissioning and reclamation phases of the proposed project. Attach a Sketch Plan or Site Diagram if appropriate.

**PART 8 – DESCRIPTION OF EXISTING ENVIRONMENTAL AND SOCIO-ECONOMIC CONDITIONS**

Describe the environmental conditions in and around the project area including land, water, air, vegetation, wildlife, fish etc.

Describe the socio-economic conditions in the region and communities surrounding the proposed project and the extent to which people use, work, recreate or travel through the project area.



**PART 7 – IDENTIFICATION OF POTENTIAL ENVIRONMENTAL AND SOCIO-ECONOMIC EFFECTS AND PROPOSED MITIGATION MEASURES**

This is a key section in which potential positive and adverse environmental and socio-economic effects of the project are identified and discussed. For each potential adverse effect list any proposed mitigation measures to minimize or avoid that effect as well as the significance of any residual effects. Add sections as required.

Effect:
Mitigation:
Significance:

Effect:
Mitigation:
Significance:

Effect:
Mitigation:
Significance:

**PART 8 – ADDITIONAL INFORMATION**

Provide information respecting any matter a decision body has asked the Designated Office to take into consideration under paragraph 42(1)(f) of the Act.

Additional information or documentation specific to the activity being proposed can also be included in this section as it may assist in evaluating your project proposal.

Information could include:

- Applications for authorizations or permits required to undertake the project.
- Record of any public participation and comment. Include details on people and organizations involved, comments and issues raised and any subsequent changes to project planning.

**PART 9 – ACKNOWLEDGEMENT AND CERTIFICATION**

The information submitted in this Project Proposal is required for the purpose of conducting an evaluation under the Yukon Environmental and Socio-economic Assessment Act. I acknowledge that, pursuant to sections 119 and 120 of the Act, a copy of this Project Proposal will be placed on a public register and be available to any member of the public to review.

I understand that misrepresenting or omitting information required for the evaluation may cause delays in the evaluation or render the recommendations invalid.

I certify that the information provided is true and correct to the best of my knowledge and belief.

\_\_\_\_\_  
Proponent's Signature

\_\_\_\_\_  
Date



**APPLICATION FOR PERMIT TO REMOVE, USE, CONVEY, TREAT, STORE, SELL, DISTRIBUTE, CONFINE OR DESTROY SPECIFIED RISK MATERIAL (SRM) UNDER THE HEALTH OF ANIMALS ACT**

**DEMANDE DE PERMIS DE RECEVOIR, D'ENLEVER D'UN LIEU, D'UTILISER, DE TRANSPORTER, DE TRANSFORMER, D'ENTREPOSER, DE VENDRE, DE DISTRIBUER, DE CONFINER OU DE DÉTRUIRE DU MATÉRIEL À RISQUE SPÉCIFIÉ (MRS) EN VERTU DE LA LOI SUR LA SANTÉ DES ANIMAUX**

<b>Applicant / Requérent</b>			
Name / Nom			
Street Address / Adresse	City / Ville	Province	Postal Code / Code postal
Contact person / Personne-ressource	Telephone / Téléphone	Fax / Télécopieur	
E-mail address / Courriel			

<b>Type of application / Type de demande</b>	
<input type="checkbox"/> New Permit / Nouveau permis	<input type="checkbox"/> Amendment to permit No. / Changements au permis n°
<input type="checkbox"/> Renewal of permit No. / Renouvellement du permis n°	
Reason for Permit / Objet du permis	Anticipated volume (KG) and Frequency / Volume (KG) et fréquence prévus

<b>Location from which the SRM is removed / Lieu duquel le MRS est transporté</b>			
Company Name / Nom de la compagnie			
Street Address / Adresse	City / Ville	Province	Postal Code / Code postal

<b>Location to which the SRM is to be transported / Lieu vers lequel le MRS est transporté</b>			
Company Name / Nom de la compagnie			
Street Address / Adresse	City / Ville	Province	Postal Code / Code postal

The information you provide on this document is collected by the Canadian Food Inspection Agency under the authority of the *Health of Animals Act* for the purpose of issuing a permit. Information may be accessible or protected as required under the provisions of the *Access to Information Act* and the *Privacy Act*.

Les renseignements que vous fournissez dans le présent document sont recueillis par l'Agence canadienne d'inspection des aliments en vertu de la *Loi sur la santé des animaux* afin d'émettre un permis. Les renseignements peuvent être accessibles ou protégés selon ce que prescrit la *Loi sur l'accès à l'information* et la *Loi sur la protection des renseignements personnels*.

**APPLICATION FOR PERMIT TO REMOVE, USE, CONVEY,  
TREAT, STORE, SELL, DISTRIBUTE, CONFINE OR  
DESTROY SPECIFIED RISK MATERIAL (SRM)  
UNDER THE HEALTH OF ANIMALS ACT CONT'D**

**DEMANDE DE PERMIS DE RECEVOIR, D'ENLEVER  
D'UN LIEU, D'UTILISER, DE TRANSPORTER, DE  
TRANSFORMER, D'ENTREPOSER, DE VENDRE, DE  
DISTRIBUER, DE CONFINER OU DE DÉTRUIRE DU  
MATÉRIEL À RISQUE SPÉCIFIÉ (MRS)  
EN VERTU DE LA LOI SUR LA SANTÉ DES ANIMAUX  
SUITE**

<b>Transporter of SRM / Transporteur du MRS</b>			
Company Name / Nom de la compagnie			
Street Address / Adresse	City / Ville	Province	Postal Code / Code postal

<b>For application to transport SRM / Concernant la demande pour le transport du MRS</b>
Description of conveyance or licence plate number of truck(s) or trailer(s). Description du moyen de transport ou le numéro de la plaque d'immatriculation du/des camion(s) ou de la/des remorque(s).

<b>Final location to which the SRM is to be transported (if different than location above)</b> <b>Lieu de destination finale vers lequel le MRS est transporté (s'il diffère du lieu mentionné ci-dessus)</b>			
*if not applicant owned or operated, provide documentary evidence of final destination e.g. letter * fournir la preuve documentaire de la destination finale, si le demandeur n'est pas le propriétaire ou l'exploitant, p.ex. lettre			
Company Name / Nom de la compagnie			
Street Address / Adresse	City / Ville	Province	Postal Code / Code postal

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Please return this application to your local CFIA district office.  
Visit  
<http://www.inspection.gc.ca/english/anima/heasan/offbure.shtml>  
for a list of the CFIA district offices.

Veuillez retourner cette demande de permis à votre bureau de  
district local de l'ACIA. Visitez  
<http://www.inspection.gc.ca/francais/anima/heasan/offbure.shtml>  
pour une liste de bureaux de districts de l'ACIA.

FORM 2

FORMULAIRE 2

AGRICULTURAL PRODUCTS ACT

LOI SUR LES PRODUITS AGRICOLES

MEAT INSPECTION AND  
ABATTOIR REGULATIONS

RÈGLEMENT SUR LES ABATTOIRS  
ET L'INSPECTION DES VIANDES

APPLICATION FOR LICENCE FOR THE  
OPERATION OF AN ABATTOIR

DEMANDE DE LICENCE EN VUE DE  
L'EXPLOITATION D'UN ABATTOIR

To the Director of  
Yukon Agriculture Branch  
Whitehorse, Yukon

Au directeur de la  
Direction de l'agriculture du Yukon  
Whitehorse, Yukon

\_\_\_\_\_  
Name of Applicant

\_\_\_\_\_  
Nom du demandeur

\_\_\_\_\_  
Address

\_\_\_\_\_  
Adresse

applies for a licence to engage in the business of operating an abattoir under the Meat Inspection and Abattoir Regulations, and in support of this application the following facts are stated:

désire obtenir une licence pour exploiter un abattoir en vertu du Règlement sur les abattoirs et l'inspection des viandes et, à cette fin, déclare ce qui suit :

1. Name under which the business is carried on

1. Nom de l'entreprise

\_\_\_\_\_

\_\_\_\_\_

2. Owner of abattoir

2. Propriétaire de l'abattoir

\_\_\_\_\_  
(If partnership, list names of all partners)

\_\_\_\_\_  
(S'il s'agit d'une association, donner le nom des associés)

3. Business address of applicant

3. Adresse d'affaires

\_\_\_\_\_

\_\_\_\_\_

4. Location of abattoir

4. Emplacement de l'abattoir

\_\_\_\_\_

\_\_\_\_\_

5. Methods of stunning to be used

5. Méthodes d'étourdissement

Hogs \_\_\_\_\_ Cattle \_\_\_\_\_

Porcins \_\_\_\_\_ Bovins \_\_\_\_\_

Sheep \_\_\_\_\_ Domestic Game \_\_\_\_\_

Ovins \_\_\_\_\_ Gibier d'élevage \_\_\_\_\_

6. Location and construction details as per Section 10 of the Meat Inspection and Abattoir Regulations (attach)

6. Aménagement et description détaillée de l'abattoir, conformément à l'article 10 du Règlement sur les abattoirs et l'inspection des viandes (annexer)

**O.I.C. 1988/104  
AGRICULTURAL PRODUCTS ACT**

**DÉCRET 1988/104  
LOI SUR LES PRODUITS AGRICOLES**

I undertake to furnish to the Director of the Agriculture Branch details of any changes from the facts stated in the application within ten (10) days from the date on which the changes are made.

Je m'engage à communiquer au directeur de la Direction de l'agriculture les détails de toute modification qui pourrait être apportée aux faits énoncés dans la présente demande dans les dix (10) jours suivant la date où le changement est effectué.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

Fait à \_\_\_\_\_ le \_\_\_\_\_ 19\_\_.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Signature du demandeur

\_\_\_\_\_  
Title of Official Signing

\_\_\_\_\_  
Titre

- > Applicants should ensure that they:
  - are familiar with the:
    - *Solid Waste Regulations (Environment Act)*;
    - *Meat Inspection and Abattoir Regulations (Agricultural Products Act)*;
    - *Public Health Regulations (Public Health and Safety Act)*; and
    - *Assessable Activities, Exceptions and Executive Committee Projects Regulations (Yukon Environmental and Socio-economic Assessment Act)*;
  - complete all sections, legibly printing or typing all information;
  - complete the signature block at the end of the form; and
  - submit all required attachments.
- > A pre-permit inspection may be conducted prior to the issuance of any permit.
- > Additional information may be required upon receipt of this application.

The original completed and signed application should be sent to:

**Agriculture Branch**, Energy, Mines & Resources  
300 Main Street, Suite 320, Elijah Smith Building  
P.O. Box 2703, Whitehorse, Yukon Y1A 2C6

Phone: (867) 667-5838  
Toll Free: 1-800-661-0408 ext. 5838  
Fax: (867) 393-6222

For information about public health requirements contact:

**Environmental Health Services**, Health & Social Services  
#2 Hospital Road, Whitehorse, Yukon Y1A 3H8

Phone: (867) 667-8391  
Toll Free: 1-800-661-0408 ext. 8391  
Fax: (867) 667-8322

For information about solid waste requirements contact:

**Environmental Programs**, Environment Yukon  
10 Burns Road  
P.O. Box 2703, Whitehorse, Yukon Y1A 2C6

Phone: (867) 667-5683  
Toll Free: 1-800-661-0408 ext. 5683  
Fax: (867) 393-6205

## CONTACT AND LOCATION INFORMATION

1. \_\_\_\_\_  
Name of Applicant Phone #
- \_\_\_\_\_ Fax #  
Legal Business Name
- \_\_\_\_\_ Postal Code  
Mailing Address
- \_\_\_\_\_  
Email Address

### 2. Location where mobile abattoir will be used:

\_\_\_\_\_ Municipal address, subdivision, highway milepost, or geographic location

Lot: \_\_\_\_\_ Block: \_\_\_\_\_ Quad: \_\_\_\_\_ Plan: \_\_\_\_\_  
Legal Location

\_\_\_\_\_ Description of land zoning (e.g., agriculture, rural residential)

\_\_\_\_\_ Landowner, if different than applicant Phone #

### 3. Nearest Community: \_\_\_\_\_

### 4. Proposed Dates or Period of Operation: \_\_\_\_\_



## SITE PLAN

5. **Attach a map or aerial photograph, on a scale of 1:50,000, showing the locations of the following:**

- |   |  |
|---|--|
| <input type="checkbox"/> mobile abattoir;                                       | <input type="checkbox"/> washroom(s);  |
| <input type="checkbox"/> drinking water well(s);                                | <input type="checkbox"/> property lines;   |
| <input type="checkbox"/> surface water bodies and watercourses;                 | <input type="checkbox"/> roads;  |
| <input type="checkbox"/> dressing / change room(s);                             | <input type="checkbox"/> environmentally sensitive areas; and                              |
| <input type="checkbox"/> all permanent structures, including nearest residence; | <input type="checkbox"/> location of solid and liquid waste disposal sites, if applicable. |
| <input type="checkbox"/> on-site sewage disposal system(s);                     |  |

## POTABLE / DRINKING WATER

6. **Do you intend to use an on-site source of potable / drinking water in addition to the 300 gallons of water with which the mobile abattoir is supplied?**

- Yes, answer questions 7 - 9                       No, skip questions 7 - 9

7. **Source of potable / drinking water for use in the mobile abattoir?**

- drilled well;                       delivered / trucked water source: \_\_\_\_\_ or  
 dug well;                       treated surface water.

8. **Type(s) of water treatment: mandatory for surface water and wells at risk of contamination, i.e. dug wells and wells less than 15 meters deep**

- chlorination;                       filtration, describe: \_\_\_\_\_  
 UV disinfection;                       other: \_\_\_\_\_

9.  **Check to confirm you have attached a copy of a recent bacteriological analysis report of the on-site source of potable / drinking water you will be using in the mobile abattoir.** The bacteriological analysis should be done as close as possible to the day of slaughter.

10.  **Check to confirm that the mobile abattoir will be located and slaughter of animals will take place at least 30 m away from any drinking water well (section 19(a) – Public Health Regulations).**

*Note: Other setbacks may be required by other regulatory authorities. In the case of a difference, the greater distance shall apply.*

## TRANSPORTATION

11.  **Do you intend to transport any meat from the mobile abattoir by any means other than the abattoir itself (e.g., 'reefer van')?**

- Yes, answer question 12                       No, skip question 12

12. a) **Describe vehicle to be used to transport meat from mobile abattoir:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  See Attached

12. b)  **Check to confirm you have attached written approval from Environmental Health for the proposed method of transportation.**

## STUNNING

13. **Indicate how you will stun animals before they are slaughtered:**

- captive bolt;                       rifle; or  
 other; describe: \_\_\_\_\_

14. **Describe the docking facility for the mobile abattoir that will contribute to its sanitary operation:**

\_\_\_\_\_  
\_\_\_\_\_  See Attached

Page 2 of 6

**ON-SITE WASTE DISPOSAL**

Note: If wastes are to be disposed of on-site and the land is not owned by the applicant, written permission from the landowner to dispose of wastes at the proposed site **must** accompany your application.

**15. Will solid and liquid wastes generated from the mobile abattoir be disposed of on-site?**

Yes, answer questions 16 - 26

No, answer questions 28 - 29

**16. If different from applicant, provide the name and address of the person responsible for management of the on-site waste disposal site:**

\_\_\_\_\_  
Name of Applicant

\_\_\_\_\_  
Phone #

\_\_\_\_\_  
Legal Business Name

\_\_\_\_\_  
Fax #

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Postal Code

**17. What is the estimated volume of wastes to be collected at this site?** (tonnes or m<sup>3</sup> per week, month or year)

\_\_\_\_\_  See Attached

**18. Estimate how long you intend to use this on-site waste disposal site:** \_\_\_\_\_

**19. Will animals other than your own be slaughtered at the site described in this application?**

Yes

No

**20. Do you intend to allow other people to use this on-site waste disposal site to dispose of wastes generated from their use of the mobile abattoir at their farms?**

Yes

No

**21. Identify method(s) of on-site waste management and disposal (check all that apply):**

**Solid Waste**

Trench or pit and covered.

Burning, describe: \_\_\_\_\_

Waste segregation, describe: \_\_\_\_\_

Composting, describe: \_\_\_\_\_

Recycling, describe: \_\_\_\_\_

Other, describe: \_\_\_\_\_

\_\_\_\_\_  See Attached

**Liquid Waste**

Same as for solid waste disposal

Trench or pit and covered.

Burning, describe: \_\_\_\_\_

Waste segregation, describe: \_\_\_\_\_

Composting, describe: \_\_\_\_\_

Recycling, describe: \_\_\_\_\_

Other, describe: \_\_\_\_\_

\_\_\_\_\_  See Attached

**22.  If waste is to be buried in a trench or pit, check to confirm that the excavation shall be at least 2.3 metres deep and wastes will be covered immediately after they are deposited with a minimum of 2 metres of soil.**

**23. Describe any current environmental monitoring of the land, air or ground / surface water:**

\_\_\_\_\_  See Attached

24. Is there a closure / decommissioning / reclamation plan for this site?

Yes, please attach

No

25.  Check to confirm you have provided an electric fence around the waste disposal site for security and to control wildlife.

26. Describe any other security / control measures that you will use around the waste disposal site:

\_\_\_\_\_  
\_\_\_\_\_  
 See Attached

27. Check to confirm that the on-site waste disposal site meets the following set-back distances:

450 m from any building used for human occupancy or for the storage of food (sections 13(a) and 33(b) – *Public Health Regulations*)

90 m from any public road allowance, railway, right-of-way, cemetery, highway or thoroughfare (section 33(a) – *Public Health Regulations*)

100 m from the high water mark of any waterway (Schedule 1, *Solid Waste Regulations*)

30 m from any drinking water well (section 19(a) – *Public Health Regulations*)

*Note: Other set-back distances may be required by other regulatory authorities. In the case of a difference, the greater distance shall apply.*

## **OFF-SITE WASTE DISPOSAL**

*Note: Wastes to be disposed of off-site must be taken to approved solid and / or liquid waste disposal sites (e.g. community dump [solid wastes], sewage lagoon [liquid wastes]). Permission from the owner of the disposal site must be obtained prior to disposing of any wastes generated from the mobile abattoir.*

28. Provide contact information regarding the owner of the off-site waste disposal site you intend to use:

### **Solid Waste Site**

\_\_\_\_\_  
Contact Person Phone #

\_\_\_\_\_  
Legal Business Name or Government Agency / Branch / Department Fax #

\_\_\_\_\_  
Mailing Address Postal Code

### **Liquid Waste Site**

\_\_\_\_\_  
Contact Person Phone #

\_\_\_\_\_  
Legal Business Name or Government Agency / Branch / Department Fax #

\_\_\_\_\_  
Mailing Address Postal Code

29. Describe methods of disposal at off-site waste disposal sites that have been discussed and approved by the owner / operator of the waste disposal site.

Solid Waste Site: \_\_\_\_\_  
\_\_\_\_\_  
 See Attached

Liquid Waste Site: \_\_\_\_\_  
\_\_\_\_\_  
 See Attached

30.  Check to confirm you have attached a copy of your letter of permission to use an off-site waste disposal site from the owner / operator of the waste disposal site.

**PERMITS AND APPROVALS**

**31. Attach any Permits or Approvals that have been obtained for this site:**

- Potable water test results
- Authorization to transport meat for retail other than in abattoir
- On-site waste disposal permit
- Other \_\_\_\_\_

**APPLICANT'S DECLARATION AND SIGNATURE**

<p>I, _____ <i>[print name clearly]</i>, certify that I am the authorized representative of _____ <i>[name of business/community]</i>, and that the information provided on and with this application form is correct and complete to the best of my knowledge.</p>		
_____	_____	_____
Signature of applicant	Date	# of attachments

**APPROVALS & AUTHORIZATIONS TO USE THE MOBILE ABATTOIR**

Attachment to the "Application for On-Farm Operation of a Mobile Abattoir".  
For Government of Yukon use only

Application received by: \_\_\_\_\_  
Name Department  
Date Time

**TO BE COMPLETED BY HEALTH AND SOCIAL SERVICES, ENVIRONMENTAL HEALTH SERVICES ONLY**

**Health Officer Approval** for the operation of a vehicle to transport meat from an abattoir.

Signature, Health Officer \_\_\_\_\_ Print Name \_\_\_\_\_ Date \_\_\_\_\_

Personal information is collected under the authority of the *Public Health and Safety Act* for the purpose of safeguarding personal and / or public health. This information may be accessible under the *Access to Information and Protection of Privacy Act*. Questions regarding the collection of this information should be directed to the Manager, Environmental Health Services, at (867) 667-8391 or toll free at 1-800-661-0408 extension 8391.

**TO BE COMPLETED BY ENVIRONMENT YUKON, ENVIRONMENTAL PROGRAMS BRANCH ONLY**

I, \_\_\_\_\_, representing the Environmental Programs Branch of Environment Yukon, have reviewed this application and can confirm that based on the information contained herein, this activity:

- requires a Commercial Dump Permit.
- does not require a Commercial Dump Permit at this time.

Signature, Environmental Programs Branch \_\_\_\_\_ Date \_\_\_\_\_

Information is collected under the authority of section 9 of the *Solid Waste Regulations*. Permits and related documents may be included on a public register as required by these regulations and/or disclosed to the public. For further information contact the Environmental Programs Branch at (867) 667-5683 or toll free at 1-800-661-0408 extension 5683.

**TO BE COMPLETED BY HEALTH AND SOCIAL SERVICES, ENVIRONMENTAL HEALTH SERVICES ONLY**

**Health Officer Approval** for the method(s) of disposal for solid and liquid wastes generated by the operation of the mobile abattoir, either on-site or off-site.

Signature, Health Officer \_\_\_\_\_ Print Name \_\_\_\_\_ Date \_\_\_\_\_

Personal information is collected under the authority of the *Public Health and Safety Act* for the purpose of safeguarding personal and / or public health. This information may be accessible under the *Access to Information and Protection of Privacy Act*. Questions regarding the collection of this information should be directed to the Manager, Environmental Health Services, at (867) 667-8391 or toll free at 1-800-661-0408 extension 8391.

**TO BE COMPLETED BY ENERGY, MINES AND RESOURCES, AGRICULTURE BRANCH ONLY**

Signature, Agriculture Development Officer \_\_\_\_\_ Print Name \_\_\_\_\_

Date of Approval \_\_\_\_\_ Date Authorization Expires \_\_\_\_\_

*Note: Applicant is to contact Agriculture no later than 72 hours prior to operation of the mobile abattoir if any changes are made which affects the information provided in this application.*

**Print Form**

**Clear Form**

- > Applicants should ensure that they:
  - are familiar with the *Air Emissions Regulation (Environment Act)*.
  - complete all applicable sections, legibly printing or typing all information.
  - complete the signature block at the end of the form.
  - submit all required attachments, including the permit fee and all applicable activity-specific form(s).
- > A fee of \$100 is payable to the **Government of Yukon** on submission of this application. There is no fee for the renewal or amendment of an active permit.
- > A pre-permit inspection may be conducted prior to the issuance of any permit.
- > An assessment of the activity you are undertaking may be required under the *Yukon Environmental and Socio-economic Assessment Act (YESAA)*.
- > Additional information may be required upon receipt of this application.

The original and signed application form should be mailed or delivered to your local government office, or:

Environmental Programs Branch (V-8)  
 Environmental Yukon  
 Box 2703 (located at 10 Burns Road, Whitehorse)  
 Whitehorse, Yukon Y1A 2C6

For additional information:  
 Phone: (867) 667-5683 or 1-800-661-0408 ext. 5683 Fax: (867) 393-6205  
 Internet: <http://environmentyukon.gov.yk.ca/monitoringenvironment/>  
 E-mail: [envprot@gov.yk.ca](mailto:envprot@gov.yk.ca)

**PLEASE READ CAREFULLY AND FILL OUT ALL SECTIONS.**

**> PART 1 – CONTACT AND SITE INFORMATION**

**1. Name and address of applicant**

Contact name and position title	Phone #
Business name or government agency/branch/department	Fax #
Mailing Address	Postal Code
Email address	
Name (person or business) to appear on permit	

**2. Who is directly responsible for the activity requiring an Air Emissions Permit?**

same as (1) above, or: (For multiple site locations, list on a separate sheet).

Contact name and position title	Phone #
Business name or government agency/branch/department	Fax #
Email address	

**3. Where will the source of the air emissions be located?**

same as (1) above, or: (For multiple site locations, list on a separate sheet).

Mailing Address	Postal Code
Street and/or Legal Address	

**4. Who owns the land on which the source of air emissions will be located?**

same as (1) above, or: (For multiple site locations, list on a separate sheet).

*Applicants not owning the land on which the source is to be located must include with this application a letter from the landowner authorizing the intended activity on their property.*

**5. Is the land leased? If so, by whom?** \_\_\_\_\_

## > PART 2 – ACTIVITIES REQUIRING AN AIR EMISSIONS PERMIT

Check off the activity(ies) that apply to your operation and complete the applicable site-specific information form(s).

- Manufacturing asphalt

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- Production/ Exploration of Oil and Natural Gas resulting in release of combustion products from flaring or burning

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- Quarrying, crushing and screening of stone, clay, shale, coal or minerals in an active excavation area covering an area greater than 4 hectares

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- Processing or handling of coal at a rate of greater than 5 million BTU per hour

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- Operation of equipment capable of generating, burning or using, according to the manufacturer's specifications, heat energy equivalent to or greater than 5,000,000 BTU/hr

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- Burning of waste by:
  - Incinerating:
    - Operation of incinerators capable of burning, according to the manufacturer's specifications, more than 5kg of solid waste per day
    - Incinerating special waste, as defined in the *Special Waste Regulations*
    - Incinerating contaminated soil containing any contaminant in excess of the generic numerical soil standard or the matrix numerical soil standard in Schedules 1 and 2 of the *Contaminated Sites Regulation*, but which is not special waste
  - Open burning of more than 5 kg/day of solid waste

**Note:**

**Incinerating** means combustion in an incinerator, which is equipment used for the burning of waste or contaminated soil where the air intake and combustion temperatures may be controlled.

**Open burning** refers to the combustion of material without control of the combustion air or without a stack or chimney to vent the emitted products of combustion to the atmosphere.

- Operation of electricity generating facilities with a maximum nameplate capacity equal to or more than 1.0 Megavolt ampere (at unity power factor equivalent to 1.0 megawatt).

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- Use of fuel with sulphur content in excess of 1.1% for:
  - Heating
  - Generating steam or electricity
  - Combustion in industrial processes

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- Storage or handling of solid, liquid or gaseous materials or substances in a manner that causes or may cause an adverse effect.

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- This application has been required by the Minister for the following reason(s):
  - Opacity of emissions exceeds 40%
  - Release of a contaminant to the air that may cause or is likely to cause irreparable damage to the natural environment
  - In the opinion of a health officer, the release of a contaminant to the air that may cause actual or imminent harm to public health or safety

**> PART 3 – OTHER PERMITS/APPROVALS**

6. Have you applied for other permit(s) under Yukon's *Environment Act* regulations:

- Solid Waste Regulations*
  - operation of a solid waste disposal site
  - operation of a commercial dump
  - other: \_\_\_\_\_
  
- Special Waste Regulations*
  - disposal of special waste
  - other: \_\_\_\_\_
  
- Other Regulation: \_\_\_\_\_

7. Is your project subject to review under the *Yukon Environmental & Socio-economic Assessment Act* (YESAA)?

- Yes: YESAA Project Number: \_\_\_\_\_
- No

**> PART 4 – EMISSIONS AND SOURCE INFORMATION**

8. Describe the type and quantity of the contaminants that may be released into the air. If available, provide results of any stack tests or dispersion modelling that has been conducted for the potential emissions.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Provide (as an attachment) a set of plans/drawings of the facility clearly showing the layout of the following as they apply:

- The location of relevant process equipment,
- The point or points of discharge to the atmosphere,
- Building dimensions,
- Stack heights,
- The north and prevailing wind directions, and
- The scale or approximate scale of the drawing.

10. Provide (as an attachment) a map or aerial photograph, on a scale of 1:50,000 detailing the location of the facility, homes, buildings, roads and other adjacent facilities within a five kilometre radius of the source(s).

11. Provide a description of any measures to be taken to reduce the amount of air emissions released from the facility and/or the concentrations of contaminants in the air emissions.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Provide a description of any measures to be taken to measure and/or mitigate the effects of the release of air contaminants on the surrounding environment.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



13. Provide a description of any equipment or devices the applicant intends to use to monitor the release of contaminants into the air at the point(s) of release. Include information on contaminants monitored, monitoring frequency, action levels and responses, and any other relevant information.

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14. Provide manufacturer's specifications for any equipment which has the potential to produce emissions.

15. List staff certified to observe opacity:

Name of Staff	Training Institution	Date Last Trained

I, \_\_\_\_\_ *[print name clearly]*, certify that I am the authorized representative of \_\_\_\_\_ *[business/person responsible for source or activity]*, and that the information provided on and with this application form is correct and complete to the best of my knowledge.

All attachments and site-specific information forms comprise part of this application.

\_\_\_\_\_  
Signature of applicant                      Date                      # of attachments

This information is being collected under the authority of Section 11 of the *Air Emissions Regulation*. Permits and related documents may be included on a public register as required by these regulations and/or disclosed to the public. For further information, contact the Environmental Programs Branch at (867) 667-5683 or toll free at 1-800-661-0408 extension 5683.

**Print Form**      **Clear Form**



*Air Emissions Regulations*  
**APPLICATION FOR AN AIR EMISSIONS PERMIT  
 (BURNING)**

**ACTIVITY-SPECIFIC FORM FOR  
 BURNING SOLID WASTE AND/OR  
 INCINERATING SOLID/SPECIAL WASTE OR CONTAMINATED SOIL**

- > This form must be submitted with the Application for an Air Emissions Permit (General).
- > Additional information may be required upon receipt of this application.

**PLEASE READ CAREFULLY AND FILL OUT ALL APPLICABLE SECTIONS.**

**> PART 1 — INCINERATING WASTE OR CONTAMINATED SOIL**

*Complete applicable portions of this part if you checked "Incineration of Solid and/or Special Waste" in the Activity portion of the General Application Form.*

1. Provide (as an attachment) the manufacturer's specifications for the incinerator, emissions control and monitoring equipment to be used, including diagrams and/or pictures as available.

**A. Incinerating Special Waste**

2. Describe the specific types of special wastes that will be incinerated (for example, biomedical waste, soil contaminated with greater than 3% hydrocarbons by weight) and include, as an attachment, results of any laboratory analyses that have been conducted on the waste(s).

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3. Identify the source or sources of special wastes that will be incinerated.

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4. If applicable, what is the approximate mass of special waste that will be incinerated on a weekly basis: \_\_\_\_\_ kg/week

- a. How often will the incinerator be operated?

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- b. Will the incinerator be operated in batch or continuous mode? \_\_\_\_\_

- c. What is the estimated mass of special waste that will be charged to the incinerator during each batch or cycle?

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5. Describe how ash resulting from the incineration of special wastes will be disposed and any analyses that will be performed on the ash to determine its characteristics:

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**B. Incinerating Solid Waste**

6. Describe the specific types of solid waste that will be incinerated (for example, domestic wastes, construction/demolition wastes).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. If applicable, what is the approximate mass of solid waste that will be incinerated on a daily basis: \_\_\_\_\_ kg/day.

a. How often will the incinerator be operated?

\_\_\_\_\_

b. Will the incinerator be operated in batch or continuous mode? \_\_\_\_\_

c. What is the estimated mass (in kg) of solid waste that will be charged to the incinerator during each batch or cycle?

\_\_\_\_\_  
\_\_\_\_\_

8. Describe how ash resulting from the incineration of solid waste will be disposed and any analyses that will be performed on the ash to determine its characteristics:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**C. Incinerating Contaminated Soil**

9. Provide (as an attachment) results of all laboratory analyses that have been conducted on the soil.

10. Identify the source or sources of contaminated soil that will be incinerated.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. What is the estimated total volume of soil to be incinerated? \_\_\_\_\_ m<sup>3</sup>

a. How often will the incinerator be operated?

\_\_\_\_\_

b. Will the incinerator be operated in batch or continuous mode? \_\_\_\_\_

c. What is the estimated volume (m3) of contaminated soil that will be charged to the incinerator during each batch or cycle?

\_\_\_\_\_  
\_\_\_\_\_

**> PART 2 – OPEN BURNING**

Complete this part of you checked "Open burning of more than 5 kg/day of solid waste" in the Activity portion of the General Application Form.

12. Describe the specific types of solid waste that will be burned (for example, domestic wastes, grubbing and stripping materials etc.).

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13. What method will be used to burn the wastes (for example: trench, drum, burning vessel)? If different methods will be used for different waste types, please specify.

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14. If applicable, what is the approximate mass of solid waste that will be burned on a weekly basis: \_\_\_\_\_ kg/week

a. How often will the burning occur?

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b. Will the burn be conducted in batches or continuously? \_\_\_\_\_

c. What is the estimated mass (in kg) of solid waste that will be burned during each batch or cycle?

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15. Describe how ash resulting from the burning of solid waste will be disposed and any analyses that will be performed on the ash to determine its characteristics. If burning different types of waste separately, please specify disposal method for ash resulting from the burning of each type:

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This information is being collected under the authority of Section 11 of the *Air Emissions Regulations*, section 9 of the *Solid Waste Regulations* and/or section 9 of the *Special Waste Regulations*. Permits and related documents may be included on a public register as required by these regulations and/or disclosed to the public. For further information, contact the Environmental Programs Branch at (867) 667-5683 or toll free at 1-800-661-0408 extension 5683.

**Print Form**      **Clear Form**

**Declaration by Owner-Producer regarding Specified Risk Materials and Age of Animal**

**For cattle less than 30 months of age:**

I, \_\_\_\_\_, [print name] the owner/producer of a \_\_\_\_\_ [example: Holstein cow], carcass bearing CCIA tag # \_\_\_\_\_ do hereby declare that to the best of my knowledge the above animal is **less** than 30 months of age.

Furthermore, the **small intestine (distal ileum) shall be deemed in all activities to be Specified Risk Material according to all CFIA legislation, and will not be used for human consumption or be put back into the bovine feed chain**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

**For cattle over 30 months of age:**

I, \_\_\_\_\_, [print name] the owner/producer of a \_\_\_\_\_ [example: Holstein cow], carcass bearing CCIA tag # \_\_\_\_\_ do hereby declare that to the best of my knowledge the above animal is **more** than 30 months of age.

Furthermore, I understand that the **head (skull, brain, trigeminal ganglia, eyes, tonsils), vertebral column (spinal cord, dorsal root ganglia) and small intestine (distal ileum) shall be deemed in all activities to be Specified Risk Material according to all CFIA legislation, and will not be used for human consumption or be put back into the bovine feed chain.**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

