Table of Contents

1. Abbreviations

Btuh	British thermal units per hour
MC	Manitoba Conservation
ROC™	Rapid Organics Converter

2. Introduction

This information supplements Tritec Concrete's January 20, 2015 "Demonstration Feedstock Authorization Application" to use its biomass fuelled ROC site heating system for processing customer specific, non biomass feedstocks.

Tritec ROC is licensed to manufacture and distribute universal organic feedstock capable ROC™ systems (up to and including 10,000,000 Btuh conversion capacity) to customers in Canada. Accordingly, Tritec Concrete requests its site operating licence number 3078 dated October 4, 2013 be amended to include authorization to process pre-approved (by MC), limited quantities of various feedstocks in its biomass fuelled ROC™ system during demonstrations to potential Tritec ROC customers.

Demonstration feedstocks will be processed only while Tritec Concrete ROC™ operators are in attendance. During feedstock demonstrations (estimated 2 weeks maximum per demonstration), the ROC™ system will operate using only biomass feedstocks over night and at other times when Tritec operators are not on site.

Tritec has received several inquiries about ROC™ potential to provide energy from the environmental regulations compliant destruction of organic wastes that are currently being hauled to landfills.

Appended photographs show the site, various stages of Tritec Concrete's ROC™ construction, and operating conditions in the primary and secondary combustion chambers. The 4 photographs with titles ending "_Current" show present status.

Typical conditions in the PCC and SCC (see appended Tritec ROC PID and PID Text for acronym definitions) appear in photographs "_8-View into processor thru PCAD" and "_9-View into SCC thru SCAD".

3. Proposed Site Operations

In addition to supplying all site heating requirements from biomass feedstocks, the Tritec Concrete ROC™ will be used to demonstrate its universal organics destruction capability, the essential "deal closer" for Tritec ROC sales.

Tritec plans to receive up to 5 tonnes of potential customer feedstocks in covered totes. Tritec Concrete's site scale will provide weights of material received. Tritec will, for each demonstration, record associated feedstock weights along with type of feedstock, date received and date destroyed.

The first demonstration will likely be processing 5 tonnes of residue from an E-Waste recycler, in or about April 2015. That waste is expected to be organic fractions (manufactured board pieces, broken plastic, short lengths of plastic coated wire, and their like) of recycled electrical components.

The number and scheduling of feedstock demonstrations thereafter will be market driven. It is estimated an average of 6 demonstrations / year could be requested over the next 3 years. Energy produced during each demonstration will, as practicable, supply site heating loads.

4. Demonstration Feedstock Processing Plan

The average processing rate of demonstration feedstocks, including during stack emissions testing, will be at a target conversion rate of 2,000,000 Btuh. The average feedstock consumption rate will vary between proximate 80 and 200 kg / hour, depending on caloric value of material being processed.

It is probable that, conditional on MC finding ROC™ performance acceptable during an E-Waste feedstock demonstration, Tritec Concrete will request further amendment of its site license so it may continuously process E-Waste feedstock, supplemented by biomass as required to supply site heating requirements.

5. ROC™ Technology Details

Please treat these appended documents as highly confidential.

The appended Processor Cross Section shows internal conditions in the first stage of a ROC™ system. It is current except for the purge plate and purge plate combustion air at the bottom of the sloped section. Prototype testing has shown the purge plate and air supply are not required for the majority of applications. The Tritec ROC™ does not have those features.

The appended "Tritec ROC PID" (hand sketches) and accompanying "PID Text" show the Tritec Concrete ROC™ configuration and provide details as to how it will be automatically controlled for demonstration events. Tenders for implementing automation are being received with automation planned for completion by end of March.

Current operation is mostly manual, assisted by automated feedstock hopper fill and feedstock injection into processor.

Table of Contents

1. Abbreviations

Btuh	British thermal units per hour
CFIA	Canadian Food Inspection Agency
Orverter	ORganics conVERTER; rebranded “ROC” in December 2010
MC	Manitoba Conservation
SRM	Specified Risk Materials
R&D	Research and Development
RE/SOP Technologies	Original developer of ROC™ technology, now Pronto Energy; Tritec ROC™ is licensed to distribute ROC™ technology
ROC™	Rapid Organics Converter

2. Tritec ROC™ System

The Tritec ROC™ system is capable of converting any organic feedstock into a 1,150°C environmental regulations compliant hot gas stream and sterile, organics free ash at a rate of 3,000,000 Btuh.

Appended photograph (1) shows the ROC™ technology portion of Tritec's system (ladders resting on retention chamber), small electrical and control building, biomass storage bin and red transfer auger. Heat extraction components, stack gas emissions testing ductwork and the bag filter module were installed after photo was taken.

Significant components in the completed Tritec ROC™ system are:

- bulk biomass storage bin
- biomass transfer auger
- feedstock receiving hopper
- feedstock charging plunger
- feedstock vaporizing processor / primary organic gas combustion chamber
- ash extraction system
- secondary organic gas combustion chamber
- two second hot gas retention chamber
- site heating boiler
- secondary site heating coils
- 100% outdoor air garage ventilation heat exchanger
- induced draft fan
- stack gas bag filters
- stack gas recirculation
- stack gas emissions testing ductwork to accommodate ground level sampling
- stack gas discharge under aggregate pile cover to prevent freezing during winter operation

3. Background

ROC™ technology got its start in January 2003. Its performance objectives were developed from the outset in close consultation with Manitoba Conservation and the Canadian Food Inspection Agency. The University of Manitoba, CFIA and third party emissions testing companies have confirmed superior ROC™ technology performance relative to CFIA and MC requirements / guidelines / limits.

The first commercial application of ROC™ technology is operating with biomass feedstock at the Tritec Concrete site in St. Eustache Manitoba. A copy of the concrete plant environmental licence number 3078 dated October 4, 2013, page 1 is appended (item 9).

Potential ROC™ technology customers ranging from small industries through greater than 300 MegaWatt electric power providers are most interested in this wholly Manitoba grown and owned technology. Observing their feedstock being processed in a ROC™ system is an essential prerequisite to making sales.

4. Proposed Development

Tritec ROC™ wishes MC approval to use its system for demonstrating ROC™ technology performance in processing a wide range of biomass types and non biomass feedstocks, all in accordance with MC regulations and requirements.

Demonstration feedstocks will arrive on site in covered, watertight totes. A site wheeled loader will lift the totes and tip their contents directly into the Tritec ROC™ feedstock hopper.

Anticipated demonstration feedstocks, and blends thereof, include:

- e-waste recycling residue (a mixture of plastic, rubber, coated wire pieces, plastic / foil strips / tags, small metallic fractions, and their like), and; a medium grind blend thereof
- residual / waste plastics (damaged auto parts, agricultural industry containers / wrapping / bags, and their like)
- wood particle board pieces, some coated with plastic and / or painted
- manure
- oat processing plant biomass residue
- flour plant biomass residue
- seed cleaning plant residue
- sewage sludge
- offal and deadstock (whole small mortalities, segments of large deadstock)
- autoclaved waste from CFIA laboratories
- municipal solid waste
- industrial plant waste (used plastic chemical containers, solvent laden rags, spent chemicals / paints, chemical contaminated clothing, and their like)

Tritec will, for each regulated / manufactured product feedstock and diseased and / or contaminated animal or plant matter feedstock demonstration:

- obtain / prepare and submit applicable site and materials handling / processing protocols to MC for approval;
- pre-advise MC of type and quantity (5 tonne maximum) of feedstock to be processed during each demonstration;
- handle and process materials in accordance with MC approved protocols;
- retain an independent firm to perform stack emissions testing for NO_x, SO_x, CO_2, CO, O_2 and particulate during each demonstration and prepare a sealed engineer's report thereon, a copy of which will be forwarded to MC;
- spread biomass absorbent on liquid spills that may occur on site (absorbent and any soil or granular material that may be scraped up therewith will be processed as ROC feedstock);
- ensure odorous / decaying feedstocks are either processed in the same work day as received or be stored (one night maximum) on site in delivery totes, and;
- dispose of ash from SRM and non-biomass feedstock demonstrations in a landfill licensed to receive hazardous waste.

5. The Technology

The ROC™ combusts only clean burning product gas. Product gas is produced in the processor when radiant energy vaporizes feedstock water and organics fractions in an oxygen deficient environment at temperatures in the range of 1,150 °C.

The ROC™ is fully scalable and automatically adapts to a virtually limitless range of organics destruction applications. It processes any organic waste without fossil fuel or other supplemental thermal energy inputs after start up. It is self sustaining solely on feedstock energy content.

The ROC produces high grade [in excess 1,400ºC (2,550ºF) where required] thermal energy. It emits no odours or smoke, only a clean organics free gas stream and sterile, organics free ash. Biomass feedstock emissions from the ROC™ complete combustion process are greenhouse gas neutral.

The ROC is a low noise process. The only significant sound source is a low horsepower fan. The Tritec plant operates with a centrifugal, low noise level fan drawing about 2.0 hp.

The high temperature flue gas stream can be used in any combination and permutation of commercially matured and evolving technologies to produce electricity, heating and / or product refrigeration (absorption process) and space cooling. This readily facilitates site specific designs and construction of distributed, sustainable, completely self contained organic waste and residue fuelled Combined Heat and Power installations.

The ROC™ requires no feedstock preparation or drying, other than gross sizing to feedstock inlet dimensions. Sustainable operation is maintained at up to 65% moisture feedstocks.

ROC™ safety is maximized by burning combustible gasses within 2 seconds of production.

6. Technology Validation

Appendices 2 through 8 are third party affirmations of superior ROC™ performance.

Appendices 2 and 3 are the before, during and after test results of processing rail ties in ROC™ prototype 2. The University of Manitoba rail tie test confirmed presence of conventional hydrocarbon, coal tar and pentachloro phenol compounds. BOMA Environmental stack test results taken while the ROC™ was processing rail tie pieces detected no CO and nitrogen oxides (as NO_2) less than 16% of the 2010 MC limit. The UofM test of resultant ash showed essentially nothing (i.e. no organic material). The UofM and BOMA test results prove the preeminent ROC™ technology performance when destroying one of the more difficult planet wastes.

Appendix 4 is CFIA's acceptance of the ROC™ as the first (only at that time) complete solution to the destruction of livestock industry SRM, including the most difficult SRM pathogen, the BSE prion.

Appendices 5 and 6 contain results of CFIA meat and bone meal ash sample tests performed on prototype 3 to prove its opinion of ROC™ potential for destroying

100% of SRM. There was no detectable protein (organic material) in the ash from both tests.

Appendix 7 shows results of National Centre for Foreign Animal Disease (CFIA offices) tests of ROC™ prototype 3 ash remaining after processing 70 kg of mature chicken carcasses, 200 kg of market weight whole hog carcasses and 600 kg of “cooked” CFIA biological materials (autoclaved CFIA laboratory wastes); again no detectible protein (organic material) in ROC™ ash.

Appendix 8 is the conclusion of Dillon Consulting Limited of Windsor Ontario that there was little potential for health or environmental impacts due to ROC™ prototype 3 stack emissions, thus further risk assessments of impacts was not warranted. Meat and bone meal from a rendering plant was being destroyed during Dillon’s test.

Appendix 9 is the first page of Tritec Concrete’s operating licence.

Appendix 10 is MB Conservation’s cover letter for the ROC Prototype 3 construction and operating licence.

7. Applications And Benefits

7.1. General

a. ROC™ destruction of all organic Municipal Solid Waste minimises / eliminates landfill requirements and reduces CO_2 equivalent Greenhouse Gas emissions to less than 50% of landfill values.

b. Quiet, odourless, low emissions operation allows multiple ROC™ Heat and Power installations in urban areas to minimize garbage haul distances and heating / electric infrastructure distribution / extension costs.

c. Conversion of residual biomass (e.g. forestry), undesirable / invasive biomass and energy biomass harvested from fast growing crops (e.g. high nutrient uptake marshland vegetation at river discharges to minimize lake nutrient levels, growth rate optimised tree species planted on marginal soils, etc.) into energy.

d. Organic waste destruction (diseased deadstock and vegetation, biomass residue, medical and hazardous wastes, and their like). The ROC™ completely destroys full grown animal carcasses without dismembering.

e. Reliable, adaptive energy production in the event of significant global climate changes / shifts. ROC™ plants can be relocated to follow feedstock availability.

f. Global warming mitigating (reduces greenhouse emissions), non fossil fuel energy production.

g. Portable, completely self contained / sustaining, integrated organic waste destruction / Combined Heat and Power plants are well suited for remote communities, disaster response situations, wilderness sport camps, isolated construction camps and new region development. Self sustaining biomass and organic waste fuelled ROC™ systems provide site electric power, heat and purified drinking water, all with no fossil fuel requirement.

h. Each ROC™ system is industrial, hazardous and medical waste disposal ready, requiring only site specific licensing. That facilitates “as produced” on-site destruction of such materials, eliminating the majority of hazardous waste storage, transportation and handling requirements. ROC™ owners will have the option of destroying PCB’s, contraband, spent pesticides / herbicides, diseased deadstock carcasses, etc. during periods when primary feedstock processing capacity is not otherwise required.

i. An excellent solution for residual organic and diseased animal carcass / biomass disposal (including pathogens and prions). All organic materials are converted into an environmental regulations compliant hot gas stream and sterile ash. The ROC™ is ideal for destroying Specified Risk Materials [including BSE prions and avian flu diseased birds, litter, animal carcasses (whole and parts), etc.], insect / fungus infected woods, diseased and undesirable genetically modified organics, off spec and contaminated product, etc.; all in a totally enclosed, negative pressure, high temperature process that produces high grade heat.

j. Thermally destroying manure and sewage sludges prevents random, uncontrolled in-species and cross-species antibiotic accumulations in the environment that, in addition to imposing undesired “low dose” medication on all food chain participants, unduly accelerate diminished antibiotic effectiveness. Complete, high temperature pathogen destruction breaks disease cycles.

k. Complete destruction of less sustainable (i.e. process-energy intensive, high cost) recyclables and non-recyclable accumulations of end-of-life plastic, composite, and other organic containing components / parts (e.g. large, end-of-life wind turbine blades).

l. Reduce sewage treatment system loads by utilizing low grade (down to 50°C) ROC™ heat for aerated sewage pond evaporation / solids concentration. This approach to maximizing availability of untreated raw sewage organics in ROC™ feedstocks increases thermal energy production and system efficiency.

m. Increased opportunities for fossil fuel supply companies to diversify / evolve into sustainable Combined Heat and Power utility providers as their current product reserves diminish.

n. Reduced dependency on planet fossil fuel reserves reduces urgency to secure sources, thus relaxes / defuses tensions associated with identifying and securing reliable foreign supplies.

7.2. Electric Utilities

a. Sustainable, residual biomass-waste organics fuelled electric power generation.

b. Minimal to no cost (to Electric Utilities) for a significant increase in distributed power generation capacity. Private sector builds distributed electric power generation facilities that are cost justified by revenues from destroying organic wastes, offsetting electric energy costs and selling residual kWh.

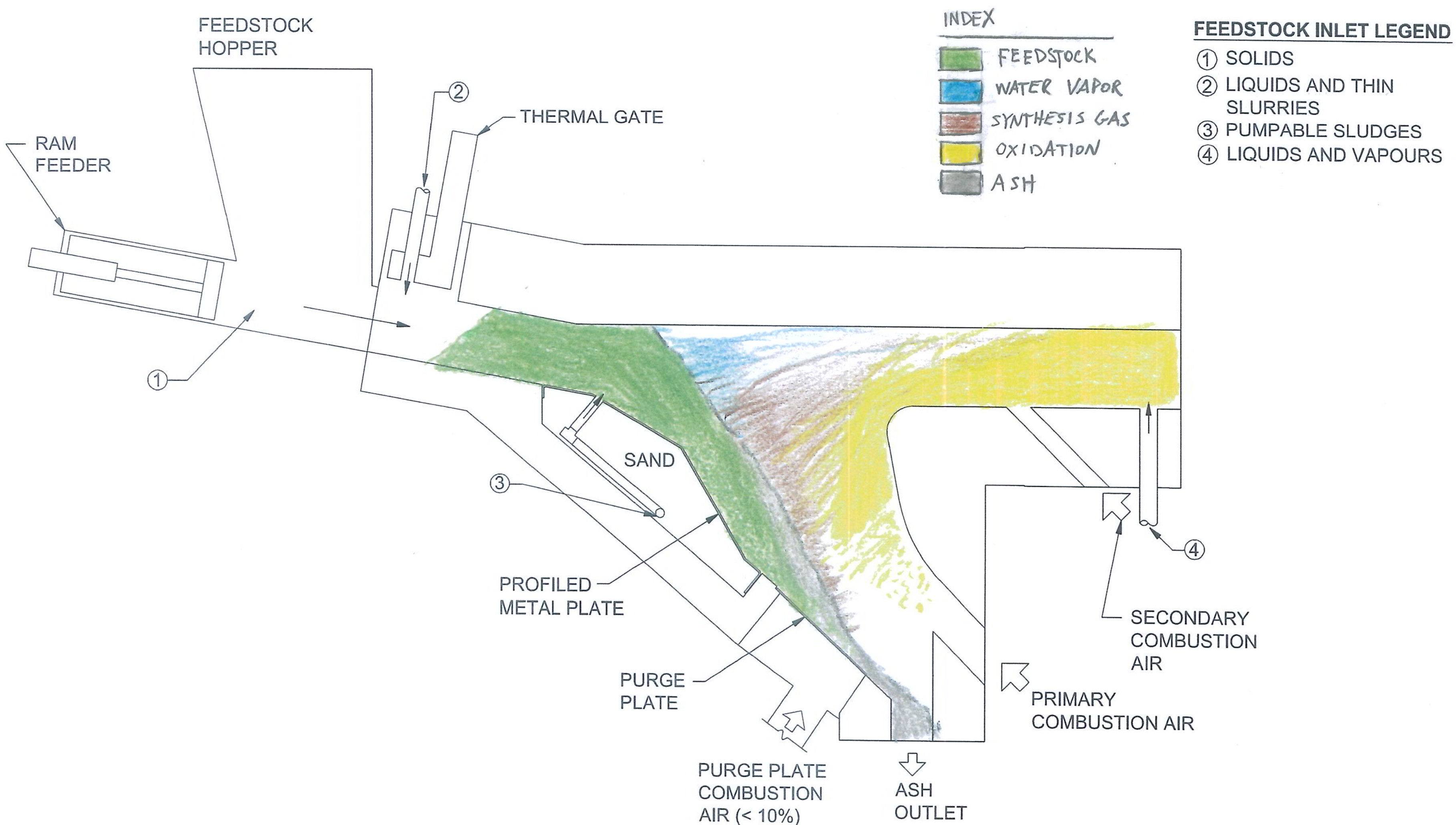
c. Incremental, distributed expansion of electric generation capacity paced to market demand significantly reduces financing costs, speculative risk and environmental licensing effort / cost below those of “Mega” power generation projects.

d. Strategically dispersed, end-of-line electric power generation plants on existing grids reduce requirements for new / upgraded “Mega Project” infrastructures and associated ecological systems impact assessments / considerations.

e. Distributed, fully scalable (from farm site / industrial park / community installations to multi MegaWatt) waste-to-energy plants increase power supply reliability / security by reducing regional blackout / brownout risk and terrorist appeal.

f. Highly reliable power generation. ROC™ waste-to-energy plants provide in the range of 95% availability, diminished only by unplanned maintenance. Hydroelectric, solar and wind facilities depend on climatic events and trends of nature.

g. Alternative to fossil fuel engine driven electric generation for off-grid communities, remote construction sites and crisis / disaster / emergency situations.



NOTE

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	pronto energy group			
	Developed for: IN HOUSE	Designed By:	Drawn By:	Approved By:
	Date: 2011/05/06	Sheet: 1 of 1	Drawing No.: -	Rev: -

From: "Wayne Buchannon" <buchann@Ms.UManitoba.CA>
To: <jamesw@meshtech.ca>
Sent: Tuesday, April 19, 2005 10:26 AM
Subject: Wood and ash samples

Hello James

I have done a GC-Ms analysis on the rail road tie sample and the ash sample you sent to me. Please give me a call so we can discuss the results.

Basically what I observed were hydrocarbons, coal tar type compounds, and pentachloro phenol in the tie sample and essentially nothing in the ash sample except for two very small peaks (definitely not pentachlororphenol) which I have not yet been able to identify. Time permitting I will have another look at these.

Wayne

Wayne D. Buchannon
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ROC COMPARISSON with 2010 Manitoba Environmental Limits					
Stack gas component	Unit	BOMA measured stack values during test diluted to 91% ambient air, 9% stack gas	ROC stack gas fractions before dilution	Manitoba Regulations (March, 2010)	**ROC values relative to MB enviro-nmental limits**
Water	Vol.	1.30%	14.36%	NA	NA
Oxygen, O2	Vol.	20.30%	13.77%	NA	NA
Carbon Dioxide, CO2	Vol.	0.60%	6.24%	NA	NA
Carbon Monoxide (CO)	Vol.	0	0	57 mg/Rm^3	0%
Carbon Monoxide (CO)	ppm	0	0	57 mg/Rm^3	0%
Nitrogen oxides (as NO2)	ppm	3.0	33.15	400 mg/Rm^3 = 212.6 ppm (***by weight***)	15.59%
Molecular weight, dry	kg/kg-mole	29.0			
Molecular weight, wet	kg/kg-mole	28.8			

Abbreviations

AS	Ash Screed
FC	Feedstock Conveyor
FCAD	Fan Cooling Air Damper modulates to maintain fan OS temperature
FH	Feedstock Hopper
FP	Feedstock Plunger
HFS	Hopper Fill Switch
HMI	Human Machine Interface (automation system computer screen)
IDF	Induced Draft Fan
wc	water column
OS	Operator Setpoint
PS	Pressure Sensor
PCAD	Primary Combustion Air Damper
PCC	Primary Combustion Chamber
RC	Retention Chamber
ROS	Residual Oxygen Sensor
RSGD	Stack gas recirculation Damper
SCAD	Secondary Combustion Air Damper
SCC	Secondary Combustion Chamber
TS	Temperature Sensor

General

1. Individual system component “Manual” or “Auto” status will be assigned by operator at HMI.
2. Actuator positions and fan speed shall be infinitely, manually adjustable over their operating range by operator inputs (% of travel between driven device zero and full travel positions for actuators; % of full speed for IDF).

Induced Draft Fan (IDF)

1. The IDF is the most important component in the ROC™ system. It has a variable speed drive. Once started it runs continuously until manually stopped. Fan target value, when in manual mode, is % of full speed.
2. When in "Auto" mode, IDF speed automatically adjusts as required to maintain hot water tank temperature around its TS 92°C (OS) target value. When hot water tank TS value drops to 2°C (OS) lower than hot water tank target temperature (92°C), increase IDF speed 10% (OS) ***of its current speed***. If after 7 minutes (OS) hot water tank TS value remains below 2°C (OS) less than target temperature (92°C), again increase fan speed 10% of its new current speed. Repeat until hot water tank TS value is above 2°C (OS) less than target temperature. Similarly (vice versa), reduce fan speed when hot water tank TS value rises to 2°C (OS) greater than target temperature (92°C).
3. After a power failure, restart IDF at its speed when power failure occurred.

Fan Cooling Damper (FCAD)

1. FCAD modulates as required to prevent IDF discharge TS value exceeding 125°C (OS).

Recirculated Stack Gas Damper (RSGD)

1. RSGD opens and modulates when and as required to prevent SCC TS value exceeding 1,150°C (OS).

Secondary Combustion Air Damper (SCAD)

1. SCAD modulates as required to maintain SCC ROS oxygen value at 2% (OS).

Primary Combustion Air Damper (PCAD)

1. PCAD modulates as required to maintain PCC PS sensor at its target operating value, 0.15" wc (OS).

Feedstock Plunger (FP)

1. Set up preferred FP forward speed (OS) and operating duration (OS) each time PCC TS value falls below its 1,125°C (OS) target temperature. FP retracts at 100% speed.
2. When PCC TS value drops to 1,050°C (OS), automatically increase FP "on" time by 3% (OS) of current value; vice versa reduce "on" duration by 10% (OS) at PCC TS value of 1,180°C (OS) or greater. Auto recheck PCC TS value 5 minutes (OS) after each FP actuator "on" duration auto adjustment. If PCC TS value remains below 1,050°C (OS), again lengthen "on" duration by 3% of new current value; reduce new current duration by 10% if PCC TS value remains above 1,180°C.

3. FP shall not advance automatically at processor temperatures below 925°C (OS) unless specified otherwise.
4. FP auto reverses when reaching its full retract and extend limits; then continues if and as necessary to complete an unfinished forward cycle.
5. At and above a 96°C (OS) hot water tank TS value, reduce PCC TS target temperature by 30°C (OS) (e,g, from 1,125°C down to 1,095°C for OS values suggested herein). Auto recheck hot water tank TS value 7 minutes (OS) after each PCC TS target value reduction and continue reducing PCC TS target value by 30°C (OS) each time a subsequent 7 minute interval hot water tank TS value is at or above 96°C.
6. At 3°C (OS) lower than hot water tank TS target temperature, increase PCC TS target temperature by 3% (OS) ***of its current value but <u>never higher than</u> 1,175°C (OS)***. If after 5 (OS) minutes, hot water tank TS value remains cooler than 2°C (OS) below TS target temperature, increase PCC TS by 3% of its new current target temperature. Repeat PCC TS 3% target temperature increases every 5 minutes until hot water tank TS value exceeds its target temperature.

Feedstock Conveyor (FC)

1. The FC starts when the HFS detects a low hopper feedstock level (OS); stops when HFS "hopper full" (OS) level is reached.

Ash Screed (AS)

1. Manually input a preferred duration (OS) that the reversing ash screed operates each time FP returns to its retract limit. Periodically monitor and adjust ash extraction screed operating duration as required to maintain between 1/2" and 1-1/2" ash depth over bottom of sloped surface.
2. AS auto reverses when reaching its full retract and extend limits; then continues if and as necessary to complete unfinished cycle duration.
3. AS shall not operate automatically at processor temperatures below 1,000°C (OS).

System Limits

1. The automation system continuously monitors PCC and SCC TS values. If either value exceeds 1,300°C (OS), deactivate FP and set IDF 100% (OS). When both temperatures drop below 1,100°C (OS), automatically return FP and IDF to operating status prior to high temperature event.
2. A low water signal from the hot water tank low water cut off stops and locks out FP (except for manual operation), closes PCAD, fixes IDF speed at value when low water signal received, reassigns processor pressure control (-0.08" wc (OS)) from PCAD to SCAD and displays "LOW WATER CUT OUT" in red letters on HMI.

3. If processor temperature drops to 800°C (OS) set processor pressure to -0.08” wc (OS), close PCAD, reassign processor pressure control from PCAD to IDF, display “LOW PROCESSOR TEMPERATURE SHUT DOWN” in red letters on HMI and continue FP operation until it reaches full extension where it automatically stops and is locked out until operator resets / restarts system.
4. ROC™ system override controls automatically modulate IDF speed when required to limit processor pressure to minimum -0.30” wc (OS).
5. Stop FP at any time IDF temperature reaches 135°C (OS). Return FP to auto operation when IDF temperature drops below 120°C (OS).
6. IF IDF fails at any point in time as indicated by zero motor amperage or processor pressure rises above 0.0” wc for 15 seconds (OS), display “IDF FAILURE” in red letters on HMI, advance FP to its full extension limit and lock out FP until operator attends and resets / restarts system.

Assessment of Deadstock, Related Materials and Pathogen Destruction
Pronto Energy ROC™

Dr. C. A. Kranendonk BSc. (Agr.), DVM, Dipl. VM

October 7, 2004

During my various positions with Agriculture Canada , and of late with the *Canadian Food Inspection Agency*, I was requested to research reliable, efficient, and effective method(s) of animal carcass destruction and disposal in the event of a major outbreak of a foreign animal disease outbreak, or other natural or infectious catastrophic event affecting large numbers of livestock and wildlife. In my former positions as Chief of Animal Destruction and Animal Carcass Disposal as part of the Manitoba Regional Alert Team, and subsequently, as Director of Food Inspection for the Mid-West Region (Manitoba, Saskatchewan, and N. W. Ontario), it became painfully obvious that the current disposal methods available, namely **1. burning** (open pyre or in a trench), **2. burying** (singular or mass grave sites), **3. rendering** (limited facilities usually in industrial / urban locations), and **4. composting** (with limited or no utilization in prairie winter capability) in a singular or combined form where totally inadequate to deal with large volumes of animal carcasses and associated materials of farm origin.

..interim text removed..

Summary

The Pronto Energy ROC™ will provide the first complete solution to the destruction and disposal of diseased and potentially diseased livestock and all the associated materials, including SRMs (specific risk materials) from abattoirs. The ROC™ present a major advancement in the efforts of animal pathogen control and total destruction. The ROC™ can destroy all known disease causing bacteria, viruses including "prions" effectively and efficiently in a single process.

National Centre for Foreign Animal Disease Laboratory
1015 Arlington Street
Winnipeg, Manitoba R3E 3M4

April 19, 2007

Mr. Mike Starodub
c/o RES/OP Technologies Inc
15-395 Berry Street
Winnipeg, Manitoba R3J 1N6

Dear Mr. Starodub:

RE: Testing of Incinerator Ash For Sterility and Protein Content

On April5, 2007 a large sample of "ash" was presented to the National Centre for Foreign animal Disease laboratory for the specific purpose of determining the sterility of the sample material as well as the residual protein content of the sample.

The sample material was transferred to the Pathology Unit of NCFAD wherein a microbiological assessment was completed on several agar plates in order to determine the presence of any microbiological agents. The sample was determined to be sterile based on zero growth on the various agar plates.

The same material was subjected to the SDS PAGE test in order to determine if there was any protein material present in the sample. The solubilized sample from approximately 1 gram of ash in 500 ul of SDS PAGE running buffer and heated to 70 degrees C for 10 minutes. 20 ul of material was loaded on a 12% Gel and run@ 150 volts for 1.5 hours. The gel material was rinsed for 30 minutes @ RT in Milli Q water then stained with Coomassie stain. Coomassie stain sensitivity is at 5 - 10ng. No additional testing for protein material was perscribed as the SDS test was found to be completely negative.

If there are any questions or concerns regarding these procedures, please do not hesitate to contact me.

Regards,

C. Kranendonk BSc(Agr), DVM, Dpl VM
Diagnostic & Training Co-ordinator
National Centre for Foreign Animal Disease
1015 Arlington Street
Winnipeg, Manitoba, R3E 3M4
Telephone (204) 789 - 2012

Fax: (204) 789 - 2038
E-mail: ckranendonk@inspection.gc.ca

National Centre for Foreign Animal Disease Laboratory
1015 Arlington Street
Winnipeg, Manitoba R3E 3M4

May 22, 2007

Mr. Mike Starodub
c/o RES/OP Technologies Inc
15-395 Berry Street
Winnipeg, Manitoba R3J 1N6

Dear Mr. Starodub:

RE: Testing of Incinerator Ash For Sterility and Protein Content

On May 16, 2007 an "official" sample was taken by the author, in order to determine the presence of any protein content in a post-incineration sample originally comprised of two containers of slaughter plant offal – including SRMs, as well as a quantity of post-rendered "cracklings" solids. The sample was taken at site, by removing the surface layer, and scooping 200 grams of 'ash" in a sterile ziplock bag and re-bagged once again in a ziplock bag. The sample was identified as to site, date, time, material and originator of sample. The sample was hand-delivered to The National Centre for Foreign Animal Disease Laboratory in Winnipeg.

The sample material was transferred to the Pathology Unit of NCFAD wherein a microbiological assessment was completed on several agar plates in order to determine the presence of any microbiological agents. The sample was determined to be sterile based on zero growth on the various agar plates.

The same material was subjected to the SDS PAGE test in order to determine if there was any protein material present in the sample. The solubilized sample from approximately 1 gram of ash in 500 ul of SDS PAGE running buffer and heated to 70 degrees C for 10 minutes. 20 ul of material was loaded on a 12% Gel and run@ 150 volts for 1.5 hours. The gel material was rinsed for 30 minutes @ RT in Milli Q water then stained with Coomassie stain. Coomassie stain sensitivity is at 5 - 10ng. No additional testing for protein material was perscribed as the SDS test was found to be completely negative.

If there are any questions or concerns regarding these procedures, please do not hesitate to contact me.

Regards,

C. Kranendonk BSc(Agr), DVM, Dpl VM
Diagnostic & Training Co-ordinator
National Centre for Foreign Animal Disease
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E-mail: ckranendonk@inspection.gc.ca

National Centre for Foreign Animal Disease
1015 Arlington Street
Winnipeg, Manitoba, Canada R3E 3M4

October 12, 2007

Mr. R. Giercke
President,
RES/OP Technologies Inc.
15 - 395 Berry Street
Winnipeg, Manitoba, Canada R3J 1N6

Dear Mr. Gierke

Re: Orverter Ash Residue Analysis for Presence of Any Protein Content

The following ash residue protein analysis test results are from samples collected aseptically directly from the "processing unit" of the Orverter during and following the incineration of the following materials:

70 kg mature chicken carcasses
200 kg of market weight hog carcasses
600 kg of 'cooked" biological materials (including animal carcasses) from the sterilizing cooker located at the Canadian Science Centre for Human and Animal Health laboratory.

The ash samples where collected in a specially constructed collection device, the hot ash was permitted to air cool and sealed in a sterile, pre-labelled metal container with a screw cap. The container samples where then transported to the pathology unit of the National Centre for Foreign Animal Disease Laboratory in Winnipeg and were submitted for the following protein detection procedures.

1. The ash samples were ground to a fine powder with mortar and pestle
2. The samples were then prepared for SDS PAGE analysis by adding an equal volume (v/v) of 1X loading buffer to the finely ground ash.
3. This mixture was sonicated for 15 seconds, then heated to 70 degrees Celsius for 10 minutes.
4. A volume of 15 microlitres of the sample was loaded onto a 10% SDS polyacrylamide gel and resolved for 1 hour at 150 volts.
5. The gel was stained overnight in Coomassie protein stain.

Colloidal Coomassie stains typically have detection limits between 10 and 20 ng protein

There was NO protein detected

This demonstration was at the request of the Dr. Steven Theriault, Senior Research Scientist, Biosecurity, (204) 789 - 7505, and Les Wittmeier, Manager, Technical Services (204) 789 - 2054 from the Canadian Centre for Human and Animal Health Laboratory (NCFAD & PHAC) Winnipeg

If there are any questions or concerns regarding the analysis procedures, please do not hesitate to contact me.

Since there are no nearby receptors to the gasifier pilot plant site, and since a preliminary screening level dispersion modelling exercise demonstrated that significant atmospheric dilution of contaminant concentrations to below Manitoba Ambient Air Quality Criteria will occur within 150 metres from the source, it is Dillon's opinion that there is little potential for health or environmental impacts from the gasifier emissions, and that the need for further risk assessment of emission impacts, establishing ambient air monitors or detailed dispersion modelling is not warranted at this time.

LICENSED PROFESSIONAL ENGINEER
May 7/08
D. M. DIEMER
PROVINCE OF ONTARIO

08-8816-1001

Submitted by

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THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

Manitoba

LICENCE

Licence No. / Licence n° 3078

Issue Date / Date de délivrance October 4, 2013

In accordance with *The Environment Act* (C.C.S.M. c. E125) /
Conformément à *la Loi sur l'environnement* (C.P.L.M. c. E125)

Pursuant to Section 10(1) / Conformément au Paragraphe 10(1)

THIS LICENCE IS ISSUED TO : / CETTE LICENCE EST DONNÉE À :

6409840 MANITOBA LTD (TRITEC CONCRETE).;
"the Licencee"

for the continued operation of the Development being a concrete batch plant located at 18 Main Street in St. Eustache in the Rural Municipality of Cartier, Manitoba, in accordance with the Proposal dated June 24, 2013, additional information provided on September 18, 2013 and September 26, 2013 and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"**accredited laboratory**" means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation to be equivalent to the SCC, or be able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

"**affected area**" means a geographical area, excluding the property of the Development;

"**aggregate**" means any crushed stone or slag, crushed or uncrushed gravel, sand or mineral filler;

"**approved**" means approved by the Director or assigned Environment Officer in writing;

"**Director**" means an employee so designated pursuant to *The Environment Act*;

"**Environment Officer**" means an employee so designated pursuant to *The Environment Act;*

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****