CITY OF IQALUIT
SPECIAL CITY COUNCIL MEETING #02
January 21, 2014 at 6:00 PM
COUNCIL CHAMBERS

PRESENT FROM COUNCIL
Mayor John Graham
Deputy Mayor Mary Wilman
Councillor Terry Dobbin
Councillor Simon Nattaq
Councillor Kenneth Bell
Councillor Romeyn Stevenson
Councillor Noah Papatsie

ABSENT
Councillor Joanasie Akumalik
Councillor Mark Morrissey

PRESENT FROM ADMINISTRATION
John Hussey, Chief Administrative Officer
Tracy Cooke, City Clerk
Meagan Leach, Director, Engineering and Sustainability
Valerie Collin, Recorder
Jeanie Eeseemailee, Senior Interpreter/Translator

PRAYER

Councillor Nattaq opened the meeting with a prayer at 6:00pm.

ADOPTION OF AGENDA

Motion #14-13

Moved by: Councillor Bell
Seconded by: Councillor Stevenson

That the agenda be adopted as presented. **Unanimously Carried**

1. **DECLARATION OF INTEREST**

None

1. SPECIAL BUSINESS

a) Presentation Re: Incineration via Teleconference
Tracey Goldberg and/or Jean Lucas, Eco Waste Solutions

Ms. Jean Lucas, Executive Vice President of Eco Waste Solutions, thanked Council for giving her the opportunity to present and stated that she has been with the company since 2000 and involved with over forty (40) projects.

Eco Waste Solutions is a Canadian environmental technology company focused on point-of-need waste management solutions. Their incineration systems offer a sustainable waste management alternative for customers, typically in remote locations, where traditional waste disposal options are not feasible.

These technologically advanced yet easy to use systems are field-proven in extreme mining locations such as high arctic regions, tropical climates and high elevations. This track record, in addition to environmental performance and product durability sets Eco Waste Solutions apart from other thermal waste conversion technology suppliers worldwide.

Ms. Lucas stated that Eco Waste Solutions' global customers are mostly located in remote locations and continues to grow based on sixty five (65) systems produced for customers in fourteen countries. Products have been fully commercialized and successfully operational since 1994. They have an experienced, long tenured team with expertise that includes project planning services, regulatory guidance and permitting assistance, engineering, combustion product design and fabrication, project management, shop assembly and field services, operator training and much more. Eco Waste Solutions is located in Burlington, ON with a shop measuring fifteen thousand (15,000) square feet which provides electrical panel fabrication, oxidizer assembly, electrical and mechanical installation and packaging for shipping.

Eco Waste Solutions was received the award of excellence in manufacturing and strict quality assurance standards. This proves that quality is very important to the company and they provide the very best product. Their unique process has earned international patents in the United States, Canada and European Union. Their controlled thermal waste conversion process is based on pyrolytic style gasification and controlled thermal oxidation; the process design is unique and results in extremely low air emissions.

Ms. Lucas stated that the gasification-oxidation technology is the only one of its kind to receive accreditation from the Environmental Technology Verification program recognized by environment Canada and the Environmental Protection Agency. The Environmental Technology Verification program is reciprocated by the United States Environmental Protection Agency and is globally recognized;

Eco Waste Solutions has the only waste gasification/oxidation technology to be verified by the Environmental Technology Verification program.

Eco Waste Solutions was recognized as a green technology leader by the prestigious Deloitte Technology Green 15 Award both in 209 and 2013.

Ms. Lucas stated that compared to other methods of waste disposal thermal waste conversion, Eco Waste Solutions' thermal waste conversion program is the most effective means of reducing waste volumes required for final disposal and preserving land; has been relied upon for centuries for destruction of disease causing pathogens and other contaminants; resulting ash residual is not an attractant to wildlife; produces a reliable source of heat energy for recovery; deals with waste as it is generated. Reducing long-term environmental legacies and current technologies have very minimal emissions and meet the strictest international norms.

There are three thermal waste conversion methods used by different companies today:

1. Mass Burn Incinerators: approximately ninety (90) of these combustion based facilities are located in North America and hundreds more in Europe. This system can process approximately three hundred (300) tons per day.
2. Emerging Technologies Gasification or Plasma-Gasification: This system is complex and uncertain. This has yet to be commercialized or proven at scale for processing for municipal solid waste.
3. Modular Controlled Air Incineration: Pyrolytic-style (starved air) gasification and oxidation. Over twenty (20) years of operational success. Available in batch or continuous feed; Eco Waste Solutions Technology utilizes this process.

Ms. Lucas explained that Eco Waste Solutions' waste oxidizer batch process includes a primary chamber for the solid waste combustion at elevated temperatures, a secondary chamber for combustion of gases from the primary chamber at very high temperatures ranging between six hundred and fifty (650) and eight hundred (800) degrees Celsius, and the optional air pollution control system which cleanse gases if required, depending on the jurisdiction and waste type.

The system features an easy to use touch screen main menu with drill-down screens and single push button start. The computer system monitors and controls all integrated components; minimal operator interaction is required. The system also provides data logging and presentation features which provide real-time graphical display of all system parameters including temperatures, gases, pH, draft, et cetera.

Ms. Lucas advised that opportunities for energy recovery are greatest with large projects, between fifty (50) and one hundred (100) tons per day, but simple methods of heat recovery can be feasible for any community. Thermal conversion of the city's garbage could reduce the cost to heat a new pool, off-setting some of the operating costs for the planned aquatics facility.

Eco Waste Solutions has several northern references including the Canadian Forces station in Alert, located on the northern tip of Ellesmere Island and is the northernmost permanently inhabited settlement in the world. The Eco Waste Oxidizer has been serving this remote outpost for twenty (20) years processing municipal solid waste. They also have one at the Canadian Forces station in Eureka, also on Ellesmere Island, south of Alert. This system serves a seasonal base camp that relies on Eco Waste Oxidizer to process domestic waste such as food and packaging.

The North Atlantic Treaty Organization purchased four of the self-contained units equipped to operate in any climate for their troops that can deploy anywhere in the world. This is the first mobile incinerator packages in the world to be equipped with European Union compliant air pollution control package and continuous emission monitors. Waste is reduced to sterile, inert residual that will not contaminate water or land; this system features a plug and play design that is operational within hours.

The City of Skagway, Alaska, with a population of five hundred (500) and tourism peak of five thousand (5000) people, also has a batch unit facility that was completed in 1997. The unit processes eight tons per day of municipal solid waste during the peak season and only operates twice per week when volumes are lower. The remaining residual of non-toxic ash and un-melted metals and glass represent a ninety (90) percent reduction from original waste volume.

Ms. Lucas stated that Cree Nation of Wemindji has an Eco Waste Oxidizer that processes three tons of non-hazardous community solid waste on a daily basis for the last ten years. Wemindji is a remote Cree First Nation community of approximately one thousand five hundred (1500) people located on James Bay.

The Hackett River Mine in Glencore, a small exploration camp located above the Arctic Circle in Nunavut with access through flight on a small aircraft only, also has a system that processes municipal solid waste such as food waste, packaging materials, et cetera.

Agnico Eagle's Meadowbank Mine, located seventy (70) kilometres north of the village of Baker Lake, Nunavut processes all of the domestic waste, approximately one thousand five hundred (1500) kilograms per day, produced by the people working in the remote mining operation since 2009.

Eco Waste Solutions has two containerized packages in Baffinland's Mary River Iron Ore Mine on Baffin Island; one container is located at each camp. These are used to process all of the solid non-hazardous waste produced by the camp totaling approximately four tons per day.

Mayor Graham asked if Eco Waste Solutions' systems use plasma technology.

Ms. Lucas advised that plasma technology is not part of their system; plasma technology systems tend to use similar first stage processes that Eco Waste Solutions uses but they then introduce a plasma torch, at extremely high temperatures that melts materials into glassy slag. This type of technology requires a significant amount of electricity, is a newer processing method and is much more complicated and involved than the systems they produce. It remains an emerging technology and undergoes a lot of experimentation.

Councillor Bell asked how extensive the training would be for operating the system and if maintenance and repairs to the system are complicated or require specific training.

Ms. Lucas advised that the batch system operates similar to a home furnace system. The system includes a fan and parts are easily replaceable and often can be purchased off the shelf at any local hardware store. Eco Waste Solutions offers to send a technician to the location where a new system has been purchased and installed to conduct a start-up and operator training which normally takes one to two days to complete. The company also provides an operation manual which is very easy to read and understand for those who will be operating the system. They also offer maintenance training which is very straight forward and easy to learn; many individuals who have not completed post-secondary education are able to operate and maintain the systems. The customer can also purchase a maintenance package where a representative from Eco Waste Solutions would come to inspect the system every few months to ensure that the system is being kept up to date.

Councillor Bell asked if the system could be upgraded at a later date.

Ms. Lucas explained that the system could be upgraded at a later date depending on what the city's goals are. If the city is interested in generating heat to heat water; the addition to the system would be very simple and would simply tie into the existing system. It would also depend on the size of the package purchased but additional controls, parts and functions could be added to the existing system if needed.

Councillor Bell asked if tires could be burned in the batch system.

Ms. Lucas confirmed that tires can be burned in the batch system and stated that tires are often used when demonstrating the system to customers.

Councillor Bell asked if the system is very expensive.

Ms. Lucas explained that an estimated amount of waste to be processed per day would be required in order to determine the system needed to process the waste and the total cost of the system.

Administration believed that the estimated amount of waste produced for 2014 is twenty six (26) tons per day and is expected to increase over the years as the city continues to grow; it is estimated to be forty five (45) tons per day in twenty (20) years. This would also depend on the diversion programs in place at the time.

Council breaks at 7:05pm.

Council returns to session at 7:20pm.

Councillor Stevenson believed that no sorting of waste would be required with this system but that not all materials could be processed and asked for clarification as to which materials would need to be removed before processing the waste.

Ms. Lucas recommended that the community have a household waste management plan in place before purchasing and using this type of system. Items such as batteries, smoke detectors, light-emitting diode lights, barbeque tanks and more would need to be diverted. She believed that it would also depend on the jurisdiction and what the municipality is permitted to process; all bulky items such as furniture and drywall should also be avoided. The system could process larger bulky items but it would take more space and more time to process, if it can be processed. Public education would be very important before implementing the new system to ensure that residents are separating their waste.

Councillor Stevenson asked how much fuel and electricity the system would utilize on a daily basis.

Ms. Lucas explained that the amount of fuel and electricity used would depend on what type of material is being processed; frozen material or bones and carcasses would take much longer to heat and cool and would require more fuel and electricity than normal municipal waste such as food and packaging. The system itself does not require a significant amount of electricity to function as there are minimal parts relying on electricity; the air pollution control component requires much more electricity than any other component of the system.

Councillor Dobbin asked if Iqaluit would require more than one batch system based on the fact that the systems also need time to cool after many hours of operation.

Ms. Lucas explained that the larger batch system would function for approximately ten to twelve hours and would then automatically cool for six to eight hours; the smaller system can process more than one batch per day since they do not take as long to process and require less time to cool. The smaller batch system would be the recommended system for Iqaluit and additional information could be provided at a later date.

Council breaks from session at 8:05pm.

Council returns to session at 8:20pm.

b) Solid Waste Managment Plan
Meagan Leach, Director, Engineering and Sustainability

Administration noted that Eco Waste Solutions was one of the five companies contacted regarding incineration systems; Council expressed interest to include incineration in the Solid Waste Management Plan but much sooner than the plan initially proposed. Some updates have been made to Section 5 and tables outlining project costs based on the fact that incineration would be included immediately rather than in five years; these changes have been distributed to Council.

Councillor Stevenson asked if any significant changes would need to be made to the draft Solid Waste Management Plan to include an incineration system similar to the one presented.

Administration advised that the plan would mostly remain the same other than the proposed changes that were distributed to Council. The Capital Plan would need to be reviewed to identify which projects could be completed and which would need to be postponed due to the additional cost for the incineration system. Further studies and information is required in order to determine total operational and maintenance costs for the system as well as staff members required to properly implement the new system.

Councillor Stevenson noted that Council also expressed their interest for installing the incineration system closer to town rather than at the new site to avoid delivery of waste that could be processed in the incineration system; a sorting centre would then also be required and should be located within the city to also avoid unnecessary waste being delivered to the landfill site. He asked for clarification where the city would allocate funds for the site selection for the incineration system and sorting facility.

Administration advised that the costs for site identification are already included in the plan.

Mayor Graham suggested that a clause be added in the plan to indicate that the city would consider incineration as a method used for the decommissioning of the West 40 landfill site, subject to further discussion by Council.

Administration believed that this could be included in the Terms of Reference for the Expression of Interest for the decommissioning of the landfill site so that companies could provide their comments on the idea of using incineration. Based on the presentation from Eco Waste Solution, waste would need to be properly separated in order to use incineration as a decommissioning method to ensure hazardous waste and explosives are removed. Digging in the current landfill site to separate waste would need to be further reviewed due to possible health and safety issues with the current waste located at the site.

Councillor Bell believed that the Solid Waste Management plan was rushed from the beginning and that it was obvious based on the lack of information provided.

He stated that Council was recently informed about the order to comply issued by Aboriginal Affairs and Northern Development Canada in March 2013 and the fact that one of the requirements was to have the Solid Waste Management Plan approved and submitted by a certain date; during a previous meeting where Council discussed the plan, he asked if the city was risking to face any serious issues with the Government of Canada by not approving the plan and deferring it back to the Engineering and Public Works Committee of the Whole for further discussion. Administration had indicated that the matter was urgent, but that the city had until 2018 to comply with federal regulations. He expressed his frustration with the fact that Council was not advised about of the order to comply and that there was a deadline for the approval of the Solid Waste Management Plan; the city could face serious penalties for not complying.

He expressed his concern with the fact that composting has not yet been proven to be successful in the north but is included in the plan as one of the first programs to be implemented; Administration has indicated that there are reports that prove that composting would be successful in the north but Council has yet to see them. He noted that Table 6 outlines the cash flow estimate for major capital components and it is estimated that the construction contracts and equipment purchase will cost approximately nine million eight thousand ($9,080,000.00) dollars; he asked for clarification as to how much the access road development would cost.

Administration believed that the estimated cost for road upgrades and road development to the new site was approximately six million two hundred thousand ($6,200,000.00) dollars.

Councillor Bell asked if the estimated cost included electricity installation along the road from town to the landfill site.

Administration confirmed that the remaining landfill development costs such as the office and garage, site development, water management and treatment infrastructure, fencing of the site, utilities, et cetera are included in the budget.

Councillor Nattaq believed that the draft Solid Waste Management Plan indicated that composting would not be successful during the winter months and noted that perhaps the city should consider doing the composting program indoors so that it is successful all year.

Councillor Bell suggested that the city should start the composting program as a pilot project as soon as possible to determine whether or not it would be successful; if the pilot project is successful the city could then proceed to the development of the road, estimated to cost six million two hundred thousand ($6,200,000.00) dollars, rather than developing the road first and testing the compost program.

Administration explained that the new landfill site is required, whether or not composting is successful, and understood the concern of Council and the reason for suggesting a pilot project to determine whether composting would be successful or not. Small pilot projects on composting have been conducted and proven to be successful; the city could conduct small composting programs in the beginning and increase the program slowly as they decide whether or not is it feasible.

Councillor Bell asked for clarification as to why the costs for the road development to the new landfill site was being allocated from the Solid Waste Management Plan project rather than the future gravel source; the road is to be developed for the future gravel source even if the landfill site was identified to be elsewhere.

Administration advised that the costs for the road development will be cost shared with the future granular source project; once the Capital Plan is reviewed in detail by staff and Council the costs for road development to the future granular source and the new landfill site.

Councillor Stevenson asked for clarification if the estimated road development cost of six million two hundred thousand ($6,200,000.00) dollars reflected in this project is the total shared cost or if it is the actual total cost of the road development.

Administration advised that the estimated cost for road development reflected in the plan is not the shared cost but the annual road operation and maintenance cost has been shared between the two projects. The total cost for road development to be allocated from the Solid Waste Management Plan project will most likely be less.

Motion #14-14

Moved by: Councillor Stevenson
Seconded by: Councillor Bell

That the meeting be extended to 10:00pm.

Unanimously Carried

Deputy Mayor Wilman did not believe that Council was being provided sufficient information to make a decision; several meetings have been held and many comments and recommendations have been made by Council. She was expecting to see an updated, revised plan rather than the same one that has been reviewed and discussed several times and to see that incineration would be included in the plan in more detail than what is currently included. She did not feel that Council's recommendations and requests were being respected.

Administration noted that they were invited to the meeting to answer any questions that Council may have in relation to the Solid Waste Management Plan as it had been added to the agenda for Council's discussion and reviewed. Administration had little time to prepare for the meeting and did not feel that the draft plan was ready for Council's approval based on discussions during the last meeting and additional comments and recommendations received by Council at that time.

Councillor Bell agreed with Deputy Mayor Wilman and appreciated the hard work and dedication of staff in the creation of the Solid Waste Management Plan. The approval of the plan is very important and time sensitive and must move forward; perhaps the plan can be further amended to reflect incineration to be considered immediately. He believed that the composting program should be a phased-in project so that the city has a better understanding of how successful it will be.

Administration noted that the workload of implementing the plan once it has been approved will be significant for the department, in addition to other important projects currently being undertaken. The department agrees that composting could be implemented as a phase-in approach and noted that it is Council's decision as to how they want to proceed with the recommended programs and their implementation.

Motion #14-15

Moved by: Councillor Stevenson
Seconded by: Councillor Bell

That Council direct Engineering to re-write the Solid Waste Management Plan to include incineration as part of the plan as of 2014, to include composting as a phased-in approach, to include the 5 companies contacted regarding incineration and that incineration be considered during the decommissioning of the West 40 Landfill Site.

Unanimously Carried

3. ADJOURNMENT

Motion #14-16

Moved by: Councillor Stevenson
Seconded by: Councillor Bell

That the meeting be adjourned at 9:35pm.

Unanimously Carried

John Graham
Mayor

John Hussey
Chief Administrative Officer

Approved by City Council on the 26 day of August, 2014, AD.