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UPDATE ON RESIDUAL WASTE PROCESSING

The Environmental Services Committee recommends:

- 1. Receipt of the presentation by Duncan McTavish, Chief Executive Officer and Betty Disero, Government Relations, Dongara; and**
- 2. Adoption of the recommendations contained in the following report dated May 20, 2010, from the Commissioner of Environmental Services, subject to amending Recommendation 4 to read as follows:**
 - 4. Staff report to Council in *February 2011* to provide an update on the status of Dongara's contract performance and options for the future if residual waste processing capacity has not been met.**

1. RECOMMENDATIONS

It is recommended that:

1. Staff be authorized to establish a revised target date of November 1, 2010 for Dongara Pellet Plant LP (Dongara) to achieve contracted maximum processing capacity of 100,000 tonnes per year.
2. Staff be authorized to prepare and execute a third amending agreement with Dongara to allow for a revised price of \$26.46 per tonne for management of unacceptable materials.
3. The actual percentage of unacceptable materials on which Dongara base their billings to be determined by monthly audit reports as undertaken by York Region.
4. Staff report to Council in early 2011 to provide an update on the status of Dongara's contract performance and options for the future if residual waste processing capacity has not been met.

2. PURPOSE

The purpose of this report is to provide Council with an update regarding the progress achieved by Dongara in implementing improvements at its residual waste pelletization plant in Vaughan to meet its contractual obligations to York Region.

3. BACKGROUND

Recovery of energy from residual solid waste after all other diversion efforts have been expended is recognized by Council as a sustainable waste management option, preferable to landfill disposal. Dongara processes residual waste to create a fuel pellet for commercial sale to industrial energy consumers. Pellets are intended as a substitute for other fuels such as coal.

On December 15, 2005, Council adopted Clause 3 of Report No. 8 of the Solid Waste Management Committee authorizing entering into contract with Dongara for residual waste processing capacity of 100,000 tonnes per year for a 20-year term.

On March 23, 2006, Council was advised in Report No. 2 of the Solid Waste Management Committee that use of the Dongara facility was expected to begin in early 2008.

On June 19, 2008, Council received Report No. 8 of the Solid Waste Management Committee that included a presentation identifying July 1, 2008 as the contract start-up date for the Dongara facility.

On October 23, 2008, Council received Report No. 6 of the Solid Waste Management Committee and an accompanying presentation outlining the process of commissioning of the Dongara plant and laid out a schedule for expected completion of the phase-in period. It was expected that Dongara would reach full operating capacity in October 2008.

Dongara has been working to increase the amount of York Region's residual waste they are able to receive and process into fuel pellets. In the intervening time period, the Commissioner of Environmental Services has provided Committee with several verbal update reports on the status of Dongara's efforts including the April 2009 Council Workshop on Providing Long Term Sustainable Residual Waste Management.

On November 19, 2009, Council received a private report of the Environmental Services Committee containing legal advice dealing with matters relating to residual waste processing. At that time staff were directed to report back to Council in spring 2010 to provide an update on Dongara's contract performance status. In addition, Dongara was requested to provide a presentation to Committee to provide a summary of the actions taken to achieve contract processing capacity.

4. ANALYSIS AND OPTIONS

Pelletization of residual waste is an innovative option with potential for sustainable waste management

York Region has been successful in its efforts to increase diversion each year. By adopting a holistic approach which continually seeks diversification of waste management options, York is well positioned to continue to advance the sustainability of its waste management system. While mature initiatives such as the Blue Box and Green Bin are vitally important to this success, embracing new and innovative advances in residual waste management technologies, such as waste pelletization, is an important proactive step that will allow York to maintain its leadership position in Canada.

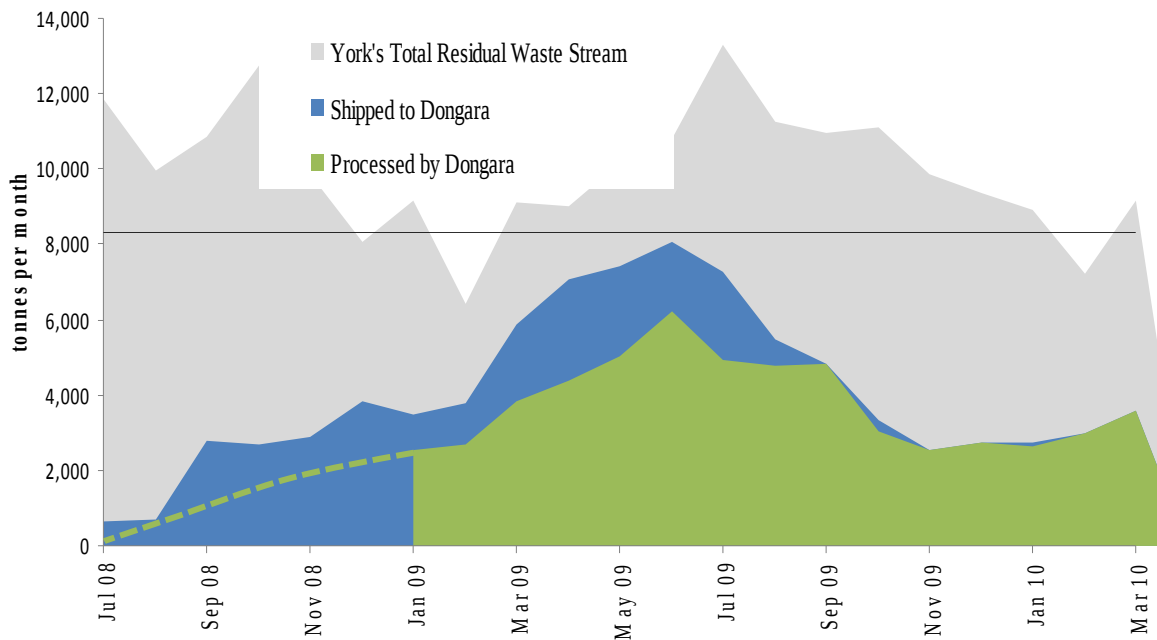
Like the joint Durham-York Energy from Waste project, pelletization of residual waste allows for recovery of energy contained in residual waste. Regional Council has strongly expressed its support for energy recovery as the 4th R, as a key component of a prudent and sustainable long-term waste management strategy.

Processing of any type of waste material to create a useful end product is technically challenging. Similar to York's own processing of Blue Box materials at the Garfield Wright Material Recovery Facility and processing of Green Bin waste into compost at contracted facilities, processing residual waste into energy pellets requires substantial effort with practical limitations on what materials can be processed. The value to York and the public from these types of initiatives lies in sustainable benefits resulting from reduced long term reliance on landfill and utilizing waste as an energy resource.

Dongara strives to improve processing capacity and pellet quality through additional investment

Dongara's contract includes the requirement to receive 100,000 tonnes of York's residual solid waste per year and process that material to produce fuel pellets for industrial and commercial use. Figure 1 shows the processing capacity achieved by Dongara since the facility opened in July 2008.

Figure 1
Dongara Residual Waste Processing



The reduction in total residual waste generation in February 2009 and 2010 as shown in Figure 1 is consistent with York's residual waste data dating back to 2003. Waste generation typically drops in February following high consumerism over the preceding holiday season. The more significant reduction illustrated for February 2009 has been attributed to the economic recession in 2009.

While Dongara continues to struggle to reach the processing threshold of 100,000 tonnes/year (8,333 tonnes/month), Figure 1 illustrates the beneficial impact of matching York's residual waste deliveries with Dongara's daily capacity. Attention to this process began in the latter part of August 2009 and since that time there has been minimal over-shipment of material requiring plant by-pass.

Dongara continues to work to further improve and optimize its process through renewed capital investment. Figure 1 illustrates a gradual increase in residual waste processing beginning in January 2010 and continuing to date. Dongara's 2010 capital investment is focused on improving separation of unacceptable material from incoming residual waste. This includes:

- Replacing shredders at the start of the process to provide more uniform material downstream.
- Installing fine trommel screens to improve front end material sorting.

- Adding parallel air separators and repositioned eddy currents are expected to improve density segregation.
- Improving metal detection and removal with additional magnets
- Increasing number of points in the system to capture and remove electronic waste.

These extensive facility improvements are expected to improve the general quality of material near the front of the process, allowing for improved performance of downstream fiberizers and pellet mills. All work is scheduled for completion by July 1, 2010.

While Dongara continues to bear the financial risk associated with developing their residual waste pelletization business, the Region's exposure is primarily non-financial. Until Dongara is able to process residual waste at contract volumes, York must partially rely on landfill disposal. As Dongara progresses with improvements to its technology and establishes a reliable market for its alternative fuel pellets, these risk exposures will lessen and the Region will continue its progress towards a more sustainable residual waste management system.

Residual waste audits provide insight into waste composition and downstream processing requirements

Regional staff, in close consultation with representatives of Dongara, have developed and implemented a residual waste audit procedure to better quantify the composition of York's residual waste stream. Extensive effort has been invested by both parties to achieve consensus on the definition of unacceptable materials within the Dongara contract.

To ensure representative and consistent results, the residual waste audit program is being conducted according to the following:

- Audits are completed by a trained, third-party contractor adhering to well-established, pre-defined standard procedures which address:
 - Random selection of residual waste loads
 - Sorting and categorization of materials
 - Strict health and safety protocols
 - Weighing materials and recording data
 - Photographic documentation of observations
 - Reporting results
- Residual waste materials to be audited are collected from the Dongara tip floor and transported to the audit location
- The minimum sample size for any audit is 1000 kg
- Categorization of materials in audits is consistent with requirements of the contract and streams contained in York's overall waste management programs
- All audits are observed by Regional staff

- Audits will be completed in monthly sets of up to 5 different residual waste source areas per month (i.e. Vaughan, King, Richmond Hill, Markham, and/or the York Region Waste Management Centre)
- For the first three months, commencing in April 2010 audits focused on Vaughan curbside residual waste as it currently represents the majority of Dongara's incoming material.

Audit results will be evaluated after completing the first three monthly sets. Dependent on results of the initial three monthly audits, up to twelve monthly audits may be conducted.

As the residual waste audit program continues, information obtained from the audits will provide:

- Valuable information for Dongara to consider in evaluating its processing system and the need for any additional improvements or upgrades; and,
- A waste composition baseline for both the Region and the local municipality to use as a benchmark for measuring participation and/or diversion related to specific waste services and effectiveness of promotion and education programs; and,
- Data to support the Region's advocacy efforts to provincial and federal regulatory bodies related to problematic packaging and/or extended producer responsibility.

5. FINANCIAL IMPLICATIONS

Dongara management of unacceptable materials continues to be cost effective

Unacceptable Materials as defined in the contract include:

- Oversized brush
- Appliances
- Oversized lumber
- Tires
- Consumer electronics
- Hazardous waste
- Construction and demolition waste
- Radioactive materials; and,
- Propane or Freon cylinders

Under contract with Dongara, the Region has two options for management of Unacceptable Materials:

1. York is responsible for all costs associated with removal and disposal; or,
2. York pays Dongara for all costs associated with removal and disposal.

There remains some uncertainty as to quantification of Unacceptable Materials in the residual waste stream. All unacceptable material categories are included as separate categories in the current audit procedure to ensure that proper quantification can be established as a basis for making financial decisions.

Comparative evaluation of these two options concludes that continuing the current practice of Dongara's management of Unacceptable Materials at the current cost of \$41.20 per tonne, plus processing, as contained in option 2, is less costly to York if the proportion of Unacceptable Materials in the residual waste stream is below 12 % over the long-term. If the proportion of Unacceptable Materials requiring management is greater than 12 % over the long-term, then the additional capital investment required for implementation of Option 1 (York's direct management of Unacceptable Materials) may be justified.

Preliminary audit results and lower Dongara haulage prices provide York Region with cost savings

Preliminary 2010 residual waste audit results suggest that the proportion of Unacceptable Materials may be below 12 %. Based on this, staff will continue the current Option 2 practice until more definitive data from residual waste audits is available and analyzed. Prior to April 2010 Dongara was billing York based on a previous audit which supported an unacceptable material rate of 18 %. Having reviewed the first three audits conducted by York this spring they have voluntarily reduced that rate to 14.4 %. For clarity, the Unacceptable Material Fee is charged in addition to the current \$84.00 tipping fee, which is applicable to all material.

Dongara has recently entered into a new contract for waste haulage which reduces their cost for the transportation of unacceptable material by \$14.74 per tonne. In view of this savings they are prepared to reduce the cost to York from \$41.20 to \$26.42. This reduction in the cost of managing this material further strengthens the merits of continuing to proceed with Option 2.

6. LOCAL MUNICIPAL IMPACT

Partnerships between York Region, City of Vaughan and Dongara contributes to development of audit procedure to effectively manage residual waste quality

City of Vaughan's curbside residual waste currently accounts for the majority of incoming material at Dongara. Since January, York Region has met with representatives from the City of Vaughan to discuss Dongara's progress and the need to improve the residual waste composition entering the pelletization plant. York has facilitated meetings between Dongara and the City of Vaughan to further discuss issues related to reducing electronics in the incoming residual waste stream. All parties have agreed to work

together to analyze the 2010 audit results and determine the most appropriate measures to continue to reduce the unacceptable materials in the residual waste.

Following current capital improvements, Dongara's processing capability is expected to increase towards contract capacity which will require residual waste from the remaining eight local municipalities. At that time, waste audits will be conducted on the incoming residual waste materials, with data shared with local municipalities based on the partnership developed with the City of Vaughan.

As the residual waste audit program continues, information obtained from the audits will provide valuable insight into waste composition baselines for both the Region and the local municipality that can be used as a benchmark for measuring participation, diversion and effectiveness of promotion and education programs. Initial audits will be focused on Vaughan until July 2010 and will expand to other municipalities as Dongara capacity increases.

Dongara is committed to working with York Region and all of our local municipalities to provide a long term option for diverting residual waste from landfill and has recently developed improved and regular communications with the City of Vaughan as part of their commitment. By working together, staff expect to reduce the amount of unacceptable materials that are received at Dongara.

York Region and City of Vaughan partner to increase electronics collection at public events in 2010

In an effort to reduce electronics from curbside waste, several electronic collection events are planned for 2010 in partnership with York Region's electronics collector, Green Tec and York Region's local municipalities. These are special one day only events where electronic materials will be collected for recycling. The City of Vaughan will be hosting four events in 2010.

York Region and the City of Vaughan have worked together to include electronics collection at all four Vaughan Environment Days this year. Scheduled events took place in Vaughan on Sunday May 2nd and Saturday June 5th. Future events are scheduled for Sunday September 12th and Saturday October 16th. For Vaughan's Environment Day on May 15th, York Region provided an information booth with additional information on electronic recycling. Anyone with electronics for recycling was directed to York Region's Vaughan Household Hazardous Waste depot, adjacent to the event location where electronics are part of the regular collection items. Notification of these events and information related to electronics recycling has been provided in the City of Vaughan's Greening Vaughan newsletter recently sent to all residents.

York Region commits to continued promotion of electronic recycling

York Region is actively implementing promotion and education programs to reduce the quantity of unacceptable material present in residual waste. Concurrently, the Ontario Provincial government is expanding its efforts to advance extended producer responsibility, including initiatives such as the Waste Electronics and Electrical Equipment (WEEE) program. These initiatives are expected to increase diversion and reduce the quantity of unacceptable materials in the residual waste stream.

York Region's electronics program will continue to be promoted through a dedicated webpage for electronics that lists items accepted at depots with a link to York Region's Public Drop-off Depots. Staff are also updating York's Household Waste & Recycling Depots Guide and McCleary Court Community Environmental Centre Brochure, both of which will be well distributed at municipal offices, public events and online.

In 2009, York Region developed an electronics ad campaign that was published in the Toronto Star - York Region Zoned edition that ran December 24, 26, 31, January 7, and January 14 to capture the post-holiday need for electronics disposal. An advertising campaign focused on electronics recycling started in April 2010 and is currently underway.

On April 25th, in partnership with the local radio station 88.5FM The Jewel, York Region hosted a live radio event at the McCleary Court Community Environmental Centre in Vaughan. This event was advertised using radio and print media and encouraged residents to bring unwanted electronics to the Community Environmental Centre (see *Attachment 1*). In turn residents received a free gift and a chance to enter a contest to win a grand prize. This successful event increased awareness of recycling services offered at the Community Environmental Centre and collected over 5 tonnes of electronic material from local residents. The Community Environmental Centre will continue to receive radio promotion over a 14 week period with an emphasis on electronics.

Staff are confident that increased awareness and access to electronics recycling will allow for materials to be recycled, reused or disposed of responsibly, while diverting waste electronics from landfill.

7. CONCLUSION

While contract processing capacity has not been attained to date, Dongara has clearly demonstrated a desire, through a significant financial commitment, to meet its contractual obligations to York Region. In view of the limited alternatives available for diverting residual waste from landfill and the continued progress by Dongara it is advantageous to continue our relationship with Dongara. The full impact of the current upgrades on the plants throughput will not be known until the latter part of this year at which time York Region's position will be further evaluated. Regional staff recommend a revised target date of November 1, 2010 be established for Dongara to reach contract processing capacity and will continue to work with Dongara towards the achievement of that goal in maximizing residual waste diversion.

For more information on this report, please contact Laura McDowell, Director Environmental Promotion and Protection at (905) 830-4444 Ext. 5077.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)

ELECTRONICS roundup



**Sunday,
April 25, 2010
11 a.m. to 3 p.m.**

The Jewel
88.5

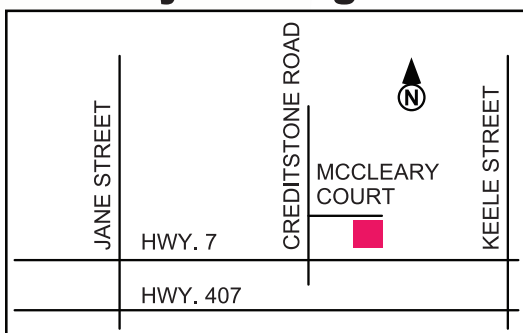
WILL BE LIVE AT

York Region's
McCleary Court Community
Environmental Centre
130 McCleary Court,
City of Vaughan

Enter
a draw for
a chance
to win an
Earth Week
prize
package!

York Region residents are invited to drop off old electronics
and receive a FREE gift! (While quantities last.)

City of Vaughan



For York Region depot hours of operation,
please visit www.york.ca/waste
or call toll free 1-877-464-9675.

