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BLUE BOX EXPANSION

(Regional Council at its meeting on May 19, 2005 amended the following Clause as follows:

Recommendation 2 be amended to provide that the Commissioner of Transportation and Works also provide an interim status report to the October 2005 Committee meeting.)

The Solid Waste Management Committee recommends the following:

1. The following deputations be received:
 - (a) John Roulston, President and General Manager, Canadian Polystyrene Recycling Association (CPRA), regarding the collection and recycling of polystyrene materials.
 - (b) Trish Johnson, Senior Environmental Consultant, Municipal Representative, on behalf of the Environment and Plastics Industry Council (EPIC), regarding the availability of industry funding through Stewardship Ontario's Effectiveness and Efficiency Fund.
2. Recommendation 1 contained in the following report, April 28, 2005, from the Commissioner of Transportation and Works be referred to the Commissioner of Transportation and Works for a report to the November Committee meeting.
3. Recommendations 2 and 3 contained in the following report, April 28, 2005, from the Commissioner of Transportation and Works, be adopted.
4. Staff report back on the viability of a pilot project involving the collection of additional materials for recycling.

1. RECOMMENDATIONS

It is recommended that:

1. The following guiding principles be considered when determining whether to establish programs to divert materials from disposal:
 - The program must have a reasonable expectation to divert the material from landfill (or the material must not pass through the diversion process only to be landfilled as residue).

- Two or more markets must be available for a given material.
 - A “due diligence” review of the proposed market outlet must be conducted.
2. The current blue box additions as approved by Regional Council on June 24, 2004 not be amended at this time.
 3. Consideration of the Town of Markham’s request to add plastic packaging to the blue box be deferred to 2006.

2. PURPOSE

The purpose of this report is to respond to a request from the Town of Markham (*see Attachment 1*) to amend the planned expansion of the blue box program to include plastic packaging.

3. BACKGROUND

On June 26, 2003, Regional Council awarded a contract (Clause 1 of Report No.7 of the Commissioner of Transportation and Works) to Miller Waste Systems to design, build and operate the Region’s Waste Management Centre in East Gwillimbury. Miller Waste Systems is also responsible for the marketing of blue box materials processed through the centre. Upon commissioning of the new centre, the blue box program was to be expanded to include: empty paint cans, aseptic and gable top containers, aluminum foil, aerosol cans and plastic tubs and lids. Public input gathered by Regional staff in 2004 also indicated a strong desire amongst residents to add additional plastics. As a result, Council approved (Clause 1 of Report No. 6 of the Solid Waste Management Committee, June 16th, 2004) a further expansion of the program to include plastic containers with resin codes #3-7 but excluding plastic film and Styrofoam. Regional and local municipal staff have since been working on implementation plans to launch the new program. On Wednesday, April 13th, 2005, however, Solid Waste Management Committee heard a presentation by representatives of the Town of Markham requesting that the pending expansion include all plastic packaging.

4. ANALYSIS AND OPTIONS

Historically, the blue box program in York Region has remained relatively unchanged, accepting for the most part only those materials required to be recycled under Provincial regulation. The new expansion of York Region’s blue box program represents a major step towards providing local residents with a program comparable to the best offered by other Regional municipalities in Ontario.

The markets for the #3-7 plastics approved by Council in 2004 has stabilized but staff and Miller Waste Systems, who markets the Region's material, are still cautious. The following sections of this report discuss general principles Regional staff need to consider when determining whether to add a new material to the blue box program or establish a diversion program for a material. The addition of plastic packaging to the Region's blue box program as requested by the Town of Markham is discussed within this context.

4.1 Current Program Expansions

Table 1 below highlights the differences between the current blue box program, the new approved changes that will take effect in July 2005, and the Town of Markham's request.

Table 1
Blue Box Program Changes

Current Blue Box Program	Council Approved Additions	Town of Markham Request
Newspaper	Empty paint cans	Plastic packaging regardless of the plastic type
Fine paper	Aseptic containers	
Corrugated cardboard	Gable top containers	
Boxboard	Aluminium foil wrap and rays	
Magazines	Aerosol cans	
Telephone books	Plastic tubs and lids	
Catalogues & flyers	#3-7 food and personal hygiene containers	
Egg cartons	Microwave plastic food trays	
Aluminium cans	Paper cups	
Steel cans	Plastic bakery trays	
#1 PET bottles	Windshield washer bottles	
#2 HDPE bottles		
Glass containers		

It is clear that the changes approved by Council represent a significant expansion in the Region's blue box program. Staff has currently planned to consider the addition of new materials including plastic packaging in 2006 after the new Material Recovery Facility (MRF) has been in operation for a year.

4.2 Guiding Principles For Evaluating Markets

The term "market" is often used in municipal recycling circles to describe everything from legitimate recycling options to third world dumping grounds. Key factors used to assess the robustness of a market include its sustainability and breadth and the recyclability of the material in question. The monetary value of the material is generally a secondary consideration as municipalities must move the materials to avoid long-term warehousing or landfilling.

4.2.1 Market Sustainability

During peak economic conditions, “spot” markets often appear for low grade materials such as mixed #3-7 plastics. The real test of a sustainable market is whether there are buyers for the material even during recessionary conditions. Too often municipalities have been quick to add new materials to their blue box program only to find that the markets for those materials disappeared shortly afterwards resulting in the material being stockpiled in warehouses or landfilled much to the embarrassment of the municipalities involved. In addition, a stable market may exist for a particular material but it may be reliant upon a single processor. Loss of the processor in turn results in loss of the market with the same negative political consequences. Recognizing that it is almost impossible politically to remove a material from the blue box once it has been added, care must be taken to ensure long-term stability of markets. Some of the materials commonly accepted in the blue box today have encountered these very problems over the last 10 years, including Tetrapak (i.e., aseptic) containers, boxboard and polystyrene (e.g., Styrofoam). It is recommended therefore that materials not be added to diversion programs unless two or more outlets exist through which to market the material and that evidence exist that the market will be sustainable under changing economic conditions (e.g., economic recession).

4.2.2 Diversion From Landfill

Whether a material is actually being recycled and to what extent are equally important considerations. For example, the residue rate from recycling various paper products varies considerably. Linerboard is made from almost 100% virgin wood and generates minimal residue when repulped. Boxboard, by comparison, often generates residue rates in excess of 30%. The resulting paper sludge must then be landfilled. While both materials are legitimately recycled, questions often arise about the net benefit of recycling materials with high residue rates. Recently, the City of Toronto’s Source Separated Organics (SSO) program was criticized when revelations of the residue rates from SSO processing became public knowledge.

Of greater concern is the addition of materials to the blue box that in fact will not be recycled. On occasion, it is easier from a public education perspective to instruct residents to include groups of materials rather than trying to educate them about which individual items should in fact be included. The Environmental and Plastics Industry Council (EPIC), for example, promotes an “All Bottles” program. Residents are simply instructed to add all bottles to their blue box rather than trying to identify acceptable bottles by resin code. Simplifying the program in theory improves participation and capture rate of the sought after plastics (i.e., “polyethylene terephthalate” or PET and “high density polyethylene” or HDPE in this case). The downside of the program is that unrecyclable bottles are also collected and subsequently landfilled. At issue is whether the increase in participation warrants the potential backlash associated with public perception that blue box recyclables are in fact being landfilled. Therefore it is recommended that materials not be intentionally added to diversion programs if they are to be subsequently landfilled as residue. It is further recommended that exceptions to this

principle be considered on a case by case basis where a business case exists which clearly demonstrates that addition of a non-recyclable material will result in a significant increase in the capture rate of recyclable materials.

4.2.3 Due Diligence Reviews of Markets

The ability of the Region to ensure that collected materials are managed in an environmentally and socially responsible manner is also an important consideration. As global trade becomes more common, the likelihood increases that locally collected recyclables will be processed overseas. While this situation opens up opportunities to divert materials that could not otherwise be recycled, there are real risks that blue box recyclables will simply be landfilled, processed using child labour or recycled in an environmentally unsound manner. China is often pointed to as a potential buyer of plastics and, in particular, a growing market for mixed plastics. Canada is a signatory to the Basel Convention which prohibits the shipping of waste to third world countries. While China is arguably no longer a third world country, it was only a few years ago that municipalities began shipping electronic waste to China only to find that much of it was being handled inappropriately. China is also notorious for their unreliability as a long-term buyer and for destabilizing North American commodity markets in the process. Their recent involvement in both the paper and steel market resulted in unanticipated record high scrap prices followed by serious market crashes. Concern exists that the same situation is expected to occur in the plastics market at some point in the future. It is recommended therefore that a due diligence review of the relevant markets and potential service providers (e.g., recycling companies) be conducted before the Region commits itself to diverting a given material for recycling.

4.2.4 Market Value

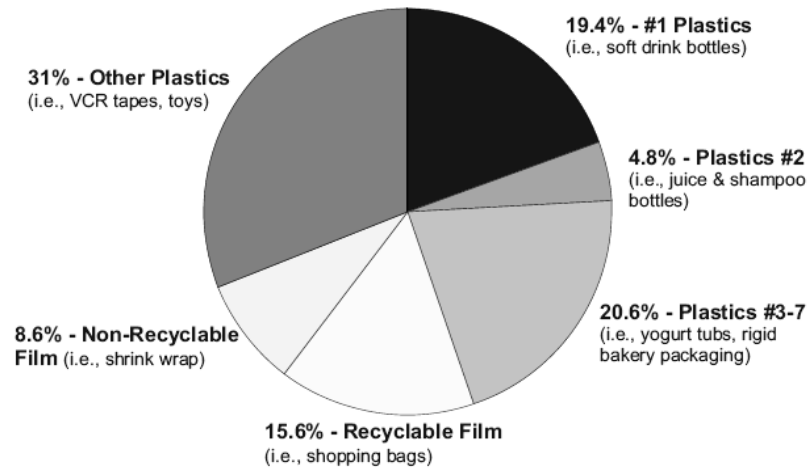
The potential sales value of a particular material is arguably of less importance in determining whether it should be added to the blue box. This is because blue box materials are essentially commodity products. Over the past year the net revenues achieved by the Region on the sale of blue box materials has been highlighted as a basis to justify adding more plastics and to question the appropriateness of sharing WDO funding between the Region and local municipalities. In reality, the value of these materials varies significantly over economic cycles and there will be times where the cost of processing blue box materials exceeds revenues from material sales. Therefore, material value should not be considered as a primary factor in determining the appropriateness of adding a material to the program.

4.3 Marketing Plastics

The marketability of plastics is affected by numerous factors including, but not limited to, the resin type, quantities and quality available, processing technologies and infrastructure and economic conditions. Figure 1 below provides a breakdown of the basic resin types commonly found in the household waste stream.

Figure 1

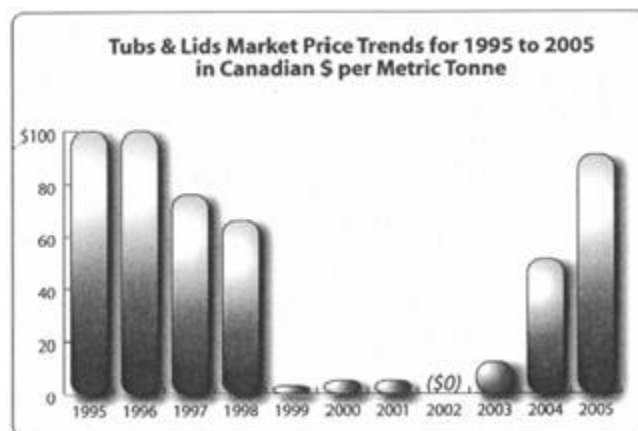
Plastic Types Found in the Waste Stream



Source: Newmarket Single-Family Residential Waste Audits, Fall 2001

Markets for the most common plastics such as PET (e.g., pop bottles) and HDPE (e.g., bleach jugs) have developed considerably over the past 15 years. Demand for these plastics is relatively stable although their sale value has suffered during periods of economic recession. Markets for the other less common plastics, by comparison, have been spotty at best. “Tubs and lids” (e.g., margarine or ice cream containers) represent the third most commonly collected group of blue box plastics and as can be seen from Figure 2 below, the market for this material has fluctuated significantly in the past decade.

Figure 2



Source: The Price Sheet, CSR

The market for the remaining #3-7 plastics is currently very limited. Many municipalities have been forced to ship their #3-7 plastics overseas to China and other Asian countries. Regional staff in consultation with staff from Miller Waste Systems researched the markets for these materials carefully before bringing forward a recommendation to Council last year to add only #3-7 “containers” to the blue box. It is staff’s belief that the market for these materials will remain marginal in the foreseeable future but is sufficiently strong to, at the very least, ensure that collected materials will be recycled. Consideration was also given at the time to adding plastic packaging, plastic film and Styrofoam to the blue box program. The market for plastic packaging (i.e., blister pack) was found to be non-existent locally and this situation remains unchanged at this time. Including plastic packaging in the local blue box would require the Region to market its recyclables overseas. This would make it almost impossible to ensure the material is in fact being managed in an environmentally and socially sound manner and is therefore not recommended.

4.3.1 MRF Operational Impacts

At the time that the Region’s new MRF was designed, the myriad of plastic containers and packaging produced by householders was not contemplated as something that might be added immediately to the Region’s blue box program. Separation of containers and paper fibre in a single-stream recycling system is technically challenging and costly. The MRF’s operator, Miller Waste Systems, is supportive of handling #3-7 plastic containers in the new system but has raised concerns about the operational impacts of adding plastic packaging. The new system has not yet been tested on even the materials currently being collected in the existing blue box program. Miller’s staff is concerned that the new system will not be able to successfully separate plastic packaging from the paper stream. If this proves to be the case, the plastic packaging will have to be separated using manual labour. This situation would dramatically increase processing costs. As a result, Miller has not agreed to process the materials requested by Markham (*see Attachment 2*).

Irrespective of how well the addition of #3-7 plastic containers to the blue box is promoted, it is reasonable to expect that some residents will add plastic packaging by mistake. Incidental quantities of packaging received at the MRF are not necessarily a problem because they will allow the Region and Miller’s staff to examine how this material behaves in the new system without committing immediately to adding packaging to the blue box. Once the full impact of handling plastic packaging is understood, staff will be able to report back to Committee with a recommendation on the appropriateness of adding it to the blue box and the financial implications of doing so. Until this work is completed, addition of plastic packaging to the Region’s blue box program is not recommended.

4.4 Public Perception

In an Ipsos Reid survey of local residents conducted by the Region only eight months ago, 24% of residents who do not recycle said it was because they believe blue box materials are being landfilled. Given that there are no markets at the present time for plastic packaging, addition of this material to the Region’s blue box program would by

necessity require that this material be landfilled. With the implementation of source separated organics collection in Markham, the Town repeatedly sought guarantees that the material would not be landfilled because of concerns over public perception. The same level of caution is recommended in expanding the Region's blue box program prematurely.

5. FINANCIAL IMPLICATIONS

The financial implications of adding plastic packaging to the Region's blue box program is unclear at this time. The quantity of material that would be collected and its implications to the operation of the Region's new MRF is not known.

Moreover, in December 2004 Minister Dombrosky announced that she was instructing Stewardship Ontario to expedite development of cost bands for future Waste Diversion Ontario (WDO) funding of municipal blue box programs. The underlying principle of the pending cost bands is that municipalities of similar size receiving WDO funding will be grouped together. Those with blue box collection and program costs exceeding their group's cost band will not be eligible for full funding. The bands are expected to be in place by the end of 2005. York Region is already at the high end of its cost band. Should the addition of plastic packaging further increase the Region's recycling costs, it will have a negative impact on the funding local municipalities currently receive through the WDO plan.

6. LOCAL MUNICIPAL IMPACT

The addition of new materials to the blue box program has been discussed with local municipalities at length over the past 18 months. This includes the decision to limit addition of plastics to #3-7 plastic containers excluding packaging, Styrofoam and film. A committee of municipal staff, led by the City of Vaughan was struck to develop a simple means of explaining the new changes to the public. Attachment 3 is a sample of the promotion and education material developed by the Town of Richmond Hill. As can be seen, local municipalities have had no difficulty developing simple and concise materials for their residents without reference to the SPI codes (i.e., #1 PET) or extensive text. All of the local municipalities except for Markham have adopted the current approved material additions to the blue box.

Municipal and Regional staff have been planning to begin promotion of the new blue box additions as early as June of 2005. A change in the types of materials being added to the program will force a complete review of the proposed approach to promoting the change. This change would likely force a delay in the start of promotional activities and cause municipalities to incur additional costs.

7. CONCLUSION

The addition of new materials to the Region's blue box program is a major step forward to improving the Region's diversion rate and improving service to residents. The addition of #3-7 plastic containers already approved by Council will put the Region at the leading edge of blue box program development in Ontario. The addition of plastic packaging is, however, not supported at this time. Stable, local markets for this material do not exist and the operational and financial impact of its addition on the Region's new Materials Recovery Facility is unknown. Local municipalities appear to have developed effective messaging to explain the addition of #3-7 containers to residents without the need to add plastic packaging. Regional staff therefore recommends that the addition of plastic packaging to the blue box be deferred to 2006 as initially proposed. This deferral will allow staff to fully evaluate the implications of its addition on the new MRF and blue box program and to assess future developments in the plastics market.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are included with this report.)