

Review of the CUPE Waste Management Plan for the City of Toronto

Executive Summary

In October, 1999, Toronto received a proposal entitled “Green Jobs and a Green Future” from the Toronto Civic Employees Union Local 416 – CUPE and the Toronto Environmental Alliance. The proposal outlined CUPE’s plan for implementing a wet dry recycling system similar in concept to that now operating in the City of Guelph) throughout Toronto.

In February, 2000, the Commissioner of Works and Emergency Services authorized a study to conduct a two phase analysis of the CUPE plan. The first phase would consist of an examination of the assumptions used and their accuracy with respect to Toronto’s waste management situation. The results of the Phase 1 evaluation are to be reported back to Works Committee in April. At that time, options will be determined for conducting the second phase of the CUPE evaluation, namely, preparing a comparative analysis of the CUPE plan in relation to the waste management system options that evolve from the TIRM proven diversion RFP submissions.

This report fulfils the Phase 1 requirements of the CUPE evaluation.

The plan submitted by CUPE to the City of Toronto is based on providing a wet dry recycling system throughout Toronto similar to that currently operating in the City of Guelph. Enviro RIS has completed an examination of the assumptions used and their accuracy with respect to Toronto’s waste management situation. As part of our evaluation, we have reviewed background data publically available and have had personal discussions with plant managers at both Guelph and Northumberland (the two facilities on which CUPE bases many of its assumptions). An overview of our key findings follows:

1. The level and effectiveness of participation of apartments, and commercial and ABC&D generators is speculative

The CUPE wet dry plan is designed to handle all waste for which Toronto currently has control, and assumes diversion rates at each facility based on this inflow.

The plan proposes a wet dry separation, collection and processing system that has not been fully implemented before for multi-family, commercial and A,B,C&D waste. Contrary to statements in the CUPE document, neither the City of Guelph nor Northumberland County currently collect or process wet waste from multi-family homes.

As experienced in implementing source separation programs within these sectors, contamination within both the wet and the dry streams will increase, and hence, recovery will likely decrease.

For the evaluation of proposals for the TIRM proven diversion process, source separated organics are being considered only from single-family (curbside-eligible) homes.

2. The proposal is based only on the experience of one operating wet dry program (Guelph) and processing of Northumberland's dry stream

The CUPE plan cites five examples of other municipal wet dry program operating in Canada. With the exception of Guelph, none of these other communities operates a true wet dry system. Furthermore, Guelph and Northumberland are relatively small programs (approximately 35,000 curbside households) compared to that proposed for Toronto. CUPE is proposing a significantly larger and more varied system in a city that is far more diverse in terms of ethnic mix and language.

3. The proposed dry MRF design is theoretical and not specific to Toronto

CUPE bases its dry MRF proposal on a theoretical MRF design known as "Guelph II". As far as we are aware, this design has never been implemented. Furthermore, it was not designed specifically for Toronto's waste composition and the specific challenges of implementing a wet dry separation program throughout Toronto. Therefore, there is considerable uncertainty in the assumptions on labour and other operating costs and most importantly, high recovery rates for individual recyclable materials (especially given the proposed sources of the material).

4. Assumed recovery rates for dry materials are optimistic

Projected dry recovery rates, and hence revenue, may be overstated in view of the likely composition of the dry stream inherent in a large, diverse city like Toronto.

5. Dry sales revenues are overstated

The use of a sales price for aluminum cans that is historically high, combined with the high recovery projection, results in an optimistic revenue projection. For budgeting purposes, we believe that it is always better to be conservative with these projections.

6. The quantity of compost product is significantly overstated

CUPE anticipates 60% compost product (183,444 tonnes) based on the same technology used in Guelph, while Guelph historically produces only 25% product. On this basis, final product reduces to 82,975 tonnes. This change (and associated changes for sales revenue, increased residue haul and disposal, etc.) results in the net cost of the proposed wet operation increasing from \$38/tonne to \$59/tonne.

7. Proposed siting assumptions are not feasible

CUPE proposes to locate 7 wet dry processing facilities, if possible, at existing Toronto transfer stations. In fact, only the Dufferin site (with no consideration of existing or proposed buildings) may be of sufficient size to accommodate the proposed facilities. Potential sites for processing dry recyclables remain a key issue. Any possible advantage to be gained by co-

collection both the wet and the dry streams in the same collection vehicle may be lost if offloading of both streams is not at the same site.

9. CUPE's comparison of wet dry processing cost to waste export cost is misleading

CUPE's cost comparison of wet dry and waste export (Figure 5.1) is an "apples to oranges" comparison. Since the wet/dry system includes recyclables and some leaf and yard waste as integral components, the waste export option should assess the net cost of processing recyclables, processing the bulking agent and the cost of exporting the remaining waste.

In effect, since recyclables processing generates net revenue (i.e. revenue from material sales exceeds processing costs), the cumulative cost of the waste export system is less than that of the wet dry system.

For such a comparison to be useful, it should compare the total system cost of each alternative, including collection costs. Although wet dry collection costs should be less than existing collection costs, it remains to be seen how total system costs will compare.

10. Collection costs are not quantified and savings may be lower than implied in the proposal

CUPE's analysis of the impact on collection is not quantified. CUPE suggests that significant savings can be achieved through implementation of the wet dry system. Wet dry collection costs should indeed be lower than for the existing collection system. However, the savings are hinged on the co-location of wet and dry processing facilities, the feasibility of which is uncertain. Moreover, many of the potential opportunities for savings apply equally to the existing system and some have begun to be implemented already.

Phase 2 – Comparison of Wet Dry Recycling to TIRM Proposals

This evaluation is intended to provide information to Council on the feasibility, background assumptions and merits of the CUPE proposal. Council also can consider the options for preparing a comparative analysis of the CUPE plan in relation to the waste management system options that evolve from the TIRM proven diversion RFP submissions. However, the CUPE submission, as provided, does not provide sufficient information to move directly into a Stage 2 comparison with the TIRM submissions.

The following notes are intended to indicate the basis on which the CUPE wet dry system could be compared to the TIRM systems:

- The wet dry system would be evaluated using the same criteria as used for the TIRM diversion systems: cost per percent diversion, jobs created, greenhouse gas emissions impacts, and traffic impacts
- The Stage 2 evaluation would include processing and as well as the impacts on the collection system. The CUPE plan does not project wet dry collection costs

- For processing, a MRF design specific to Toronto's anticipated waste stream would be required detailing appropriate costs, productivity and recovery levels (as noted in this review, the CUPE assumptions are not specifically tailored to Toronto's waste stream and should be modified depending on other processing considerations, such as the number and size of potential facilities to be implemented)
- For collection, the computer model developed to evaluate the TIRM proposals would be extended to include a wet dry system
- The Stage 2 evaluation would require establishing the following specific information and assumptions:
 - Assume system initially covers only residential waste stream
 - Resolve whether wet dry system should cover apartments (as noted in the review the feasibility and effectiveness of implementing wet dry in apartments is speculative)

Processing

- Number and size of facilities
- Location of facilities
- Productivity and staffing levels
- Capital and operating costs
- Recovery rates and residual rates
- Material sales revenues

Collection

- Co-collection (depending on unloading locations)
- Unloading locations
- Separation and set out levels
- Mix of vehicle size and type consistent with TIRM systems
- Collection productivity consistent with TIRM systems
- Vehicle operating costs consistent with TIRM systems