

December 21, 2012

Richard Menge
Public Works Director
Town of Hartford
173 Airport Rd.
White River Junction, VT 05001

Re: Operations Review of Hartford's Transfer Station and Curbside Recycling Program

Dear Rich:

Presented below is DSM's final report concerning our operations review of the Hartford Transfer Station and the Curbside Recycling Collection Program. We are hopeful that this analysis will be of use to Hartford as your solid waste management programs continue to evolve going forward.

Introduction

DSM Environmental Services, Inc. (DSM) was contracted by the Town of Hartford to undertake a comprehensive review of the Hartford transfer station operations and the curbside recycling collection program. This review was prompted by concerns that, while the transfer station was operating in the black under an enterprise account, punch card fees were high compared to neighboring transfer stations, and limited reserves were available to conduct necessary repairs and purchase of new equipment.

The curbside collection program, unlike the transfer station is funded entirely from the general fund and there were concerns as to whether the program was an essential service and/or was performing effectively.

This Letter Report summarizes the analyses undertaken by DSM and the resulting findings and recommendations. It is meant to augment the presentation provided to the Selectboard at its October 2nd meeting.

Tasks Undertaken

DSM, with assistance from the transfer station staff undertook the following tasks to complete our analysis:

- Analysis of transfer station use;
- Analysis of curbside recycling collection;
- Review of potential options through the Greater Upper Valley Solid Waste District and/or the City of Lebanon;
- Review of transfer station costs, by activity; and,
- Review of potential system changes.

Each task and the resulting findings is presented below.

Analysis of Transfer Station Use

Surveys of users of the transfer station were conducted by transfer station staff on the following dates:

- Partial days, Monday and Tuesday, June 4 – 5
- Full day, Saturday, June 9
- Full days, Thurs – Saturday, August 16 – 18
- Full days, Wed – Thursday, August 22 – 23

These surveys requested information on: what Town the user was from; what materials they were bringing, and how much of each they were bringing; how often they use the transfer station; and, whether they subscribed for curbside collection of refuse and/or took advantage of the curbside collection program for recyclables.

Surveys to only determine the Town which the user was from were also conducted on three additional days in late June.

Key Findings

- There are an average of 300 users on a Saturday and 95 users per week day
- Roughly 62% of Saturday users and 52% of weekday users are from Hartford
- The average Hartford resident comes to the transfer station every 2.3 weeks
- Based on answers to survey questions we estimate that roughly 1,000 residents of Hartford use the transfer station as their primary means of solid waste management
- This represents approximately 20% of full time resident Hartford households, or 16% of total households¹

While permit sales would indicate that between 30 and 37% of Hartford households purchase permits, the difference is likely households with curbside refuse collection that use the transfer station less frequently for special wastes. This assumption is consistent with Lebanon landfill scale data which indicates that a total of 8,840 tons of Hartford waste were delivered to the Lebanon landfill over the past year, of which only 1,900 tons came from the Hartford transfer station.

¹ Based on 4,509 full time households and an additional 984 seasonal/vacation households from 2010 Census data.

Hartford Residents Using Transfer Station

Looking *only at data from users who reported that they were residents of Hartford* the survey results indicate that:

- Between 40 and 65% (rounded) of Hartford users surveyed report using the curbside recycling service as well, and only about one-half of them brought recyclables to the transfer station on the day they were surveyed.
- Less than 10% of the Hartford resident Transfer Station users surveyed report having a contract with a private hauler for curbside collection of refuse indicating that the transfer station is the primary means for refuse disposal for these Hartford residents.

Cost To Hartford Resident Associated with Relying on Transfer Station

Based on the reported use of the Transfer Station by Hartford survey respondents it is possible to estimate what the total annual cost is to a Hartford user.

The average Hartford user visits the Transfer Station 26 times per year and purchases 46 coupon punches. The average annual cost can then be calculated as follows:

- Punch card: 46 punches at \$3.05 per punch = \$140
- Permit: \$20
- Cost to drive to the Transfer Station: assuming 6 miles per trip (a conservative assumption) and 26 trips yields 156 miles at 55.5 cents per mile = \$87
- Each households average share of property taxes to support curbside recycling program = \$25
- Total Cost: \$275 per year divided by 12 months = \$23 per month

Non-Hartford Residents Using Transfer Station

Looking *only at non-Hartford users* the surveys indicate that:

- The majority of non-Hartford residents using the transfer station are from Hartland, representing 25% of all users (including Hartford residents)
- The second largest non-Hartford user is from Woodstock, followed by smaller numbers from Sharon, Norwich, Pomfret, Thetford, and Stafford, in declining order
- A large majority of these non-Hartford users bring recyclables to the transfer station

- Performing the same cost analysis for the typical Hartland user but assuming the typical Hartland user comes to the Transfer Station 23 times per year and travels 10 miles out of their way, the total annual cost equals \$346, or \$28.85 per month.

Transfer Station Cost and Revenue Analysis

Total, fully allocated transfer station costs (exclusive of landfill closure costs) for FY 11-12 were \$658,874. This includes actual operations costs plus administrative costs assigned to the transfer station budget.

These costs are funded through a combination of tipping fees (coupon sales and tip fees) and other surcharges/fees (see Table 2, below), including:

- Annual permit fees of \$20 per vehicle for residential users
- Commercial hauler permits to use transfer station
- Waste ordinance fees for haulers operating in Hartford
- Rental revenue from Reuse Store
- Materials sales revenues from recycling
- Revenues over costs for C&D disposal

While Hartford allocates costs among activities at the transfer station as part of the enterprise fund accounting, DSM further broke down the activities to take a closer look at costs and revenues from key activities carried out at the transfer station. The goal was to attempt to determine what the net cost for each activity was, accounting for all costs and deducting revenues generated by that activity.

DSM used Hartford's Expenditure and Revenue report for FY 12, as provided to DSM by Andrew Larkin. DSM then relied on estimates by Hartford transfer station staff and Hartford administration as to what percent of time they spent on each activity over the course of an average month, as well as costs directly attributable to a single activity. This required that the Administration portion of the enterprise account (budget category 30-975) be reallocated to the curbside collection, MSW transfer, drop-off recycling, C&D and special waste activities shown in Table 1.

Table 1 summarizes fully allocated costs for FY 12 (based on end-of-year budget data) for the transfer station and curbside recycling collection.

As Table 1 illustrates, all of the operations at the transfer station except C&D grinding and the SEVCA lease are cost centers, even after deducting revenues. This is also the case for the curbside recycling collection system.

Excess costs over revenues are made up through other revenue sources, as illustrated in Table 2, which provides a summary of revenue sources supporting Hartford's transfer station and curbside collection

program. Note that revenues do not equal expenses when comparing Tables 1 and 2 because landfill closure costs are not included.

Table 1: Fully Allocated Transfer and Curbside Recycling Costs (FY 11-12)

Activity	Fully Allocated O&M	Capital Reserve	Total	Revenue	Net Cost	Cost/Ton
Curbside Collection	\$ 194,903	\$ -	\$ 194,903	\$ -	\$ 194,903	\$ 324.84
MSW Transfer	\$ 207,889	\$ 6,000	\$ 213,889	\$ 146,729	\$ 67,161	\$ 35.67
Drop-Off Recycling	\$ 165,893	\$ 6,000	\$ 171,893	\$ 48,436	\$ 123,457	\$ 146.05
C&D	\$ 188,206	\$ 6,000	\$ 194,206	\$ 308,208	\$ (114,002)	\$ (34.14)
Scrap Metal	\$ 58,293	\$ 1,168	\$ 59,461	\$ 49,084	\$ 10,377	\$ 55.06
SEVCA	\$ 3,358	\$ -	\$ 3,358	\$ 11,400	\$ (8,042)	na
Tires	\$ 3,935	\$ 1,000	\$ 4,935	\$ -	\$ 4,935	\$ 297.10
HHW	\$ 11,132	\$ -	\$ 11,132	\$ 6,845	\$ 4,287	na
Total (1)	\$ 833,609	\$ 20,168	\$ 853,777	\$ 570,701	\$ 283,076	
Transfer Station Only	\$ 638,706	\$ 658,874				

(1) Excludes Landfill Closure Cost of \$21,897

Capital Improvements

DSM's observation at the Transfer Station is that there is a need for increased investments in maintenance of both equipment and the buildings. While it was beyond our scope to develop engineering costs estimates, discussions with the Department of Public Works and transfer station personnel indicated that at a minimum the Town should increase capital reserves to include: \$25,000 for replacement of the fork lift with a newer piece of equipment; and, \$50,000 for site work upgrades to the HHW storage building so that it can become fully operable.

In addition, the Town should set aside funds each year for on-going maintenance of the existing buildings and for correction of on-going landfill settlement issues as they impact the access roads and entrances to buildings. These additional capital improvement costs are not included in Table 1 but represent real costs that the Town will need to address in future years.

Table 2, Summary of Revenue Sources (FY 11-12)

Category	(\$)
Permits	
Commercial	\$ 8,610
Residential	\$ 71,943
Tipping Fees	
Commercial	\$ 138,925
Hartford Coupon Sales	\$ 157,307
District Coupon Sales	\$ 136,150
Recycling Revenues	\$ 107,050
Reimbursements	\$ 27,514
Other Revenues	
SEVCA	\$ 11,150
Waste Ordinance Fees	\$ 80,000
Hauler Licenses	\$ 1,430
Transfer from General Fund	\$ 156,172
Total	\$ 896,251

Analysis of Curbside Recycling Collection

DSM’s analysis of Hartford’s curbside recycling collection system centered on three tasks. First, we met with Casella to review the current collection system and Casella’s estimate of the number of households served and estimated participation.

Second, DSM followed the curbside collection truck on representative routes over the part of several days attempting to gain a better understanding of likely participation rates.

Finally, Casella agreed to weigh all materials collected on the curbside collection routes over two weeks in August and two weeks in September.

Key findings of our analysis are:

- Roughly 600 tons of curbside recyclables are currently collected on an annual basis based on the four weeks of weigh data annualized
- Somewhere between 45 and 55 percent of Hartford households participate in the curbside recycling collection program

- Dividing the annualized tons by the total number of households in Hartford yields 270 pounds of recyclables per household per year
- We would expect that this would be approximately double if all Hartford residents had parallel collection of single stream recyclables in rolling carts on the same day as refuse collection (see below)

Alternatives Available to Hartford

DSM was also tasked with investigating alternatives to operating and/or keeping the Hartford Transfer Station open. We investigated three alternatives, in addition to continuation of the Transfer Station as it is currently operated: (1) operation of the transfer station by the Greater Upper Valley Solid Waste District; (2) Closure of the transfer station, directing all users to use the Lebanon landfill and/or contract with a private hauler; and, (3) operation of the transfer station on a limited basis with implementation of a town-wide contract for parallel collection of refuse and recyclables from all households. Each of these alternatives is discussed in more detail below.

Operation of the Transfer Station by the Greater Upper Valley Solid Waste District

DSM met with officials of the Greater Upper Valley to discuss the potential for the District taking over operation of the transfer station. This is a logical alternative given that the transfer station was designed as a regional facility and because roughly 45 percent of all users of the transfer station are from District towns outside of Hartford.

Unfortunately, while District officials acknowledge the regional value of the transfer station, it does not appear that the District is in a position to take over operations of the transfer station because of the significant amount of debt service the District is paying each year to fund the bridge construction to the District landfill site. Because the Lebanon landfill has adequate capacity for many more years (see below), there is limited need to open the District landfill, which would be the only source of revenue sufficient to support District operations of the Hartford transfer station.

However, there is general agreement that discussions between Hartford and the District, and potentially other Upper Valley municipalities should continue to determine if there is a regional solution that would allow the Hartford transfer station to remain as a key regional facility for managing waste and recyclables going forward.

Closure of Transfer Station with Use of Lebanon Landfill and Recycling Facility

There is currently no prohibition against Hartford residents and businesses delivering waste to the Lebanon landfill and recycling facility. In fact, most businesses and commercial haulers operating in Hartford deliver waste directly to the Lebanon landfill instead of to the Hartford transfer station because the tipping fee is significantly less. In addition, because Hartford's waste from the transfer station already goes to the Lebanon landfill, closing the Hartford transfer station would have no impact on the Lebanon landfill.

According to George Murray, Landfill Manager for Lebanon, the current Lebanon landfill cell under construction has sufficient capacity for an additional 12 years at current rates of fill (which includes Hartford waste). In addition, according to a new business plan for the Lebanon landfill prepared by Sanborn Head and Associates for the City of Lebanon, the landfill could remain in operation until 2090 by developing cell 3 to the south of the current operations, mining the original cell to the north of the current operations and filling that area and the road area between the two cells. This is based on the assumption of a one percent per year growth in the 40,000 tons currently disposed at Lebanon on an annual basis.

During discussion with Lebanon officials it became clear that the primary concerns associated with Hartford residents using the Lebanon landfill and recycling center revolve around traffic. Surveys of Hartford transfer station users indicate that almost as many people bring waste and recyclables to the Hartford transfer station on a Saturday as use the Lebanon landfill and recycling facility on a Saturday. Therefore, directing Hartford residents to use Lebanon would essentially double Saturday traffic to the Lebanon landfill. Even if the rebuilding of the 12A/I89 intersection were to solve the traffic problems on 12A, there would still be lines extending onto 12A from the landfill on Saturdays if both Hartford and Lebanon residents were using that facility. According to Lebanon officials, the traffic problem could only be solved if Lebanon were to stop its source separated recycling program and go to a single stream recycling program. This would eliminate some of the revenues Lebanon currently enjoys from their recycling system, requiring some type of increased fees for Hartford residents to make up the difference.

One key issue which may affect the Hartford transfer station is the current agreement by Lebanon to accept Hartford's ground C&D at no cost. This arrangement allows Hartford to bring in excess revenue over costs for the grinding and transfer operation. It is difficult to determine exactly how much excess revenue because it is difficult to break out coupon sales for C&D versus MSW waste, however. DSM's best estimate is that the C&D operation at Hartford netted roughly \$113,000 in revenues over costs in FY 11-12. This is important because ground C&D materials have been known to increase hydrogen sulfide emission at landfills which use ground C&D as cover material – as Lebanon does.

Lebanon is currently testing its landfill gas, and has had odor complaints. If the testing were to identify hydrogen sulfide as one of the landfill gas emissions of concern it is likely that Lebanon would no longer be willing to accept the ground C&D at no cost which would eliminate this important revenue source to Hartford.

Continuation of Current Transfer Station Operations

DSM believes that the Hartford transfer station continues to be valuable as a regional transfer station serving the Upper Valley. However, the transfer station is vulnerable as a stand-alone operation by the Town of Hartford because it already has relatively high fees when compared to both the Lebanon landfill (\$1 per 32 gallon container) and the Weathersfield Transfer Station (\$2 per 32 gallon container) which are both "full service" transfer stations accepting a broad range of materials like Hartford does. The Windham Solid Waste Management District Transfer Station in Brattleboro is another full service transfer station. The Windham District charges \$10 for the first 140 pounds which is essentially equivalent to \$2.20 per 32 gallon container assuming it weighs an average of 30 pounds. These charges can be compared against the coupon charge of \$3.05 for Hartford residents and \$4.05 for Greater Upper

Valley District residents; which would have to be pushed even higher if Lebanon were to stop accepting ground C&D at no cost. In addition, Hartford has deferred capital maintenance and improvements in an effort to hold costs down, and eventually these capital improvements will have to be addressed.

It should be noted here that a question has been raised as to whether Hartford could significantly expand recovery of reusable C&D material delivered to the transfer station as a way to reduce costs and increase revenues. It is DSM's professional opinion that, while this would be a way to reduce disposal of C&D materials, it would come at an increased operational cost to Hartford. It would require additional personnel and a storage facility to keep recovered materials out of the weather. Given that there are already two used building materials supply places in Hartford, it is unlikely that sufficient usable materials are being delivered to the transfer station to make this a viable undertaking.

One other issue of concern with respect to the current operations is the fact that the transfer station accepts cash payments for coupons. It is DSM's experience that this is not a good business practice because it is impossible to provide a fully auditable procedure to assure that all of the cash payments are correct and fully accounted for. Scale personnel on Saturdays are especially vulnerable to a charge of theft with no way to prove their innocence. For this reason DSM has recommended in our analysis of other transfer stations that no cash be accepted at the transfer station; instead that coupons be sold at convenience stores where full accounting is assured.

Recommendations

Based on the analysis described above there appear to be two primary paths moving forward. The first would be to optimize the existing Hartford only system. The second, and preferred option, would be to move toward a regional solution in which the Hartford transfer station plays an integral part in a larger regional system. Each alternative is described below.

Hartford Alone

Only roughly 20 percent of Hartford residents rely on the Transfer Station for refuse disposal, meaning that the remaining 80 percent already subscribe for garbage collection. In addition, Hartford already provides curbside collection of recyclables to all residents.

Subscription collection of refuse by multiple haulers is less efficient than having a single truck go down the road and collect waste from all households. And, as surveys of users of the Hartford transfer station indicate, people driving to the transfer station are already incurring costs similar to curbside collection simply by multiplying the number of trips per month reported by the survey respondents by the IRS automobile cost per mile rate.

For this reason, the optimum system for Hartford would be for Hartford to contract with a single hauler for weekly garbage and single stream recycling. It is DSM's professional judgment that this would double the recycling rate in Hartford, and at costs similar to what residents both subscribing for curbside collection of refuse, and driving to the transfer station are already paying.

This would then allow the Town to reduce hours at the transfer station to either one day per week, or at a maximum two days per week. The transfer station could then become the primary location for disposal of bulky and hard to handle wastes, and for recycling of materials other than materials collected curbside (e.g., scrap metals, some clean C&D materials, tires, car batteries, large plastic items).

To minimize involvement of the Town in the curbside collection contract, the contract could specify that the designated hauler provide large rolling carts for single stream collection of recyclables, and that the hauler be responsible for billing all households. To reduce costs, the Town could agree to be the payment collector of last resort because of the Town's ability to attach property for non-payment of services.

It is DSM's estimate that a curbside collection contract for refuse and recycling would cost roughly \$25 - \$35 per household per month depending on final bid specifications.

In the absence of a comprehensive solution involving refuse and recycling, if the Town wants to continue with the status quo, then it probably makes sense to discontinue the current curbside recycling collection program to take the cost off of the property tax, with the hope that Casella would begin to offer single stream (sort) recycling to its customers in Hartford.

Regional Solution

As discussed above, DSM believes that the optimum solution would be to convert the transfer station to a truly regional facility operated by the Greater Upper Valley District. This would spread the burden of operations over the many towns that currently now rely on the transfer station as the only real recycling and special waste management option available to them.

To accomplish this would require that the Greater Upper Valley District find a way to resolve the debt service associated with the bridge to the Hartland landfill site. One option would be for the region, including the municipalities using the Lebanon landfill, to purchase the Hartland landfill. This would provide the region with guaranteed landfill capacity for the foreseeable future, assuring that when the Lebanon landfill closed, a new site would be available. The cost of the purchase could be funded through a relatively minor surcharge on the tipping fee at the Lebanon landfill. Assuming that the cost would be the \$2.2 million the District currently still has in debt service, a tip fee surcharge ranging from \$3 to \$4 per ton could cover the debt service over period of 15 to 20 years.

This would then free up the District to take over management of the transfer station, using the District surcharge to provide for needed capital improvements and for the re-opening of the household hazardous waste storage facility located at the transfer station.

Next Steps

DSM believes that it is in Hartford's best interest to begin to have regional discussions concerning the potential viability of transferring ownership of the Greater Upper Valley Landfill to a regional consortium of municipalities.

DSM ENVIRONMENTAL SERVICES, INC.

Resource Economists
Environmental Scientists

In the interim Hartford should make sure to include sufficient capital reserves in on-going budgets to address equipment and deferred maintenance issues at the transfer station.

It will also be necessary for Hartford to make a decision as to whether it should move forward with a more formal contract for curbside collection of recyclables, or abandon that program.

Hartford should also monitor the landfill gas emission testing by Lebanon and ensure that Lebanon can continue to receive ground C&D. If Lebanon discontinues acceptance of ground C&D the Hartford transfer station finances change significantly and Hartford should immediately consider dropping C&D acceptance of sheet rock and also review the viability of the C&D facility altogether. If the Lebanon landfill gas emissions issue is resolved in a manner that allows for continued delivery of ground C&D as cover material then the current grinding contract for C&D should be renewed.

Signed:



Ted Siegler