

**BEFORE THE CONTRACT REVIEW BOARD OF THE
METROPOLITAN SERVICE DISTRICT**

FOR THE PURPOSE OF APPROVING AN)	RESOLUTION NO. 92-1566
EXEMPTION FROM THE COMPETITIVE BIDDING)	
REQUIREMENTS AND AUTHORIZING THE)	Introduced by Rena Cusma,
EXECUTIVE OFFICER TO EXECUTE AN)	Executive Officer
AMENDMENT TO THE METRO CENTRAL)	
CONSTRUCTION AND OPERATION AGREEMENTS)	

WHEREAS, Resolution No. 89-1169A authorized the award of contracts to Trans Industries for construction and operation of Metro Central Station; and

WHEREAS, Because acceptance of the Metro Central facility without acceptably functioning mixed solid waste (MSW) processing lines can be viewed as a material deletion from the original scope of work, approval of the amendment contained in Exhibit A is required by the Contract Review Board under Metro Code Section 2.04.045; and

WHEREAS, The events leading up to the negotiated contract settlement are described in Attachment 1 to the staff report; and

WHEREAS, The amendment contained in Exhibit A is acceptable to Trans Industries; and

WHEREAS, This resolution was submitted to the Executive Officer for consideration and was forwarded to the Council for approval; now therefore,

BE IT RESOLVED,

That the Contract Review Board of the Metropolitan Service District hereby exempts the amendment attached to this Resolution as Exhibit A from the competitive bidding process.

ADOPTED by the Contract Review Board of the Metropolitan Service District this

27th day of February, 1992.



Jim Gardner, Presiding Officer

EXHIBIT A

FOURTH MODIFICATION OF THE 1989 METRO TRANSFER STATION CONSTRUCTION AGREEMENT AND 1989 METRO TRANSFER STATION OPERATION AGREEMENT

This Agreement, between the Metropolitan Service District of Portland, Oregon, a service district organized under Chapter 268 of the Oregon Revised Statutes, and a municipal corporation and public body, corporate and politic, of the State of Oregon, (herein "Metro"), and Trans Industries, (herein "Contractor"), a joint venture of Browning-Ferris Industries of Oregon, Inc., an Oregon corporation, and Trans-Waste, Inc. an Oregon Corporation, is a modification of two agreements entered into between the parties on December 8, 1989, the first entitled "1989 Metro Transfer Station Construction Agreement" (herein "Construction Agreement"), and the second entitled "1989 Metro Transfer Station Operation Agreement (herein after "Operation Agreement"). In exchange for the promises and other consideration, set forth in the Construction and Operation Agreements, earlier modifications, and in this modification, the parties agree as follows:

1. Purpose. The purpose of this modification is to reduce the Facility Price by \$1,930,938 and define the terms under which this price adjustment will be made. This adjustment is considered a settlement that allows Metro to accept the facility at a reduced price given that both parties agree that the performance of a portion of the materials recovery system was unacceptable during the Acceptance Test. Under the terms of this modification, all materials recovery equipment shall remain installed in the Facility as property of Metro, but the Contractor shall: 1) credit to Metro the remaining balance due on all construction payments; 2) assume all maintenance costs at the Facility; 3) guarantee a fixed payment to Metro for the salvage of the bag breaker on MSW Line #2 should Metro choose to have it removed and 4) provide monthly payments to remit the remaining amount of the adjustment.
2. Effective Date. This modification shall take effect on the Acceptance Date.
3. Adjustment to Facility Price.
 - a. The Facility Price specified in the Construction Agreement, Section 1. Definitions (page 10), as " \$18,269,825 as that sum may be adjusted in accordance with the terms hereof " shall be reduced by \$1,930,938.
 - b. The Facility Price adjustment shall be made through a combination of the following three methods such that the total adjustment equals \$1,930,938:

- (A) Contractor shall remit to Metro the entire unpaid balance of \$504,438 due to the Contractor on the original facility cost and all change orders.
- (B) Contractor shall assume all maintenance costs for the facility for the first three years of the Operation Agreement.

- (i) For the first three years of the Operation Agreement, Section 7.3.2 of the Operation Agreement shall be changed to reflect this assumption of responsibility by deleting and adding text as indicated below:

7.3.2 Other Repairs and Maintenance; Capital Improvements.

7.3.2.1 The Contractor shall make all repairs of equipment and perform all maintenance, in addition to periodic maintenance set forth in section 7.3.1, reasonably required for the operation of the Facility in conformity with this Agreement and the Performance Standards, ~~and shall be reimbursed by Metro for one half of its Direct Costs thereof, to the extent of Cost Substantiation; provided, however, Contractor shall not be entitled to reimbursement for costs up to a cumulative total of \$25,000 times the number of Contract Years (or portions thereof) this Agreement has been in effect.~~ Contractor shall be entitled to full reimbursement for Direct Costs result from Metro Fault or Change in Law. If the Direct Costs for any repair or maintenance resulting from Metro Fault or Change in Law are estimated to be less than \$10,000, or are required in order to avoid injury to persons or property or a material stoppage in the Processing of Acceptable Waste, the Contractor shall effect the same and promptly notify Metro; in all other cases resulting from Metro Fault or Change in Law where Direct Costs are estimated to be greater than \$10,000, Metro shall be notified of and approve such actions in a procedure substantially equivalent to that for a Change Order under the Construction Agreement.

- (ii) Metro agrees to assign a value of \$237,500 for each of the first three years of the Operation Agreement (for a total of \$712,500) to the above maintenance costs and to credit this amount toward the Facility Price adjustment, subject to the following condition: Contractor shall continue to operate and maintain the material recovery systems such that the Facility recovers a minimum of 5% of the Acceptable Waste received (excluding any residuals received from the Reidel Compost Facility). If the average recovery rate for a three month period falls below this level,

Metro may, at its sole discretion, choose to reinstate the original maintenance agreement by written notice to the Contractor. The value of the maintenance services provided up to the date of the Metro decision, calculated by prorating the yearly assigned value of \$237,500, shall be credited against the Facility Price reduction.

- (iii) If Metro exercises its right to reinstate the original maintenance agreement, the future maintenance costs Metro would have credited toward the Facility Price reduction had the Contractor continued to assume all maintenance costs, shall be remitted by the Contractor through reductions in payments made under the Operation Agreement. The payment reductions shall be a fixed amount equal to the total value of the payment reductions divided by the number of months left in the first three years of the Operation Agreement. These reductions are in addition to the reductions Metro is entitled to below under Section 3.b.(D).
- (C) Contractor will provide to Metro the salvage value of the bag breaker on MSW Line #2 should Metro choose to have it removed. Contractor guarantees that the value shall not be less than \$120,000 provided that the decision to remove the bag breaker is made by Metro on or before December 31, 1992. Contractor shall remit the value to Metro through a lump sum credit against the next monthly payment under the Operation Agreement following either the Contractor's receipt of the salvage value or within 120 days of the equipment's removal if a buyer cannot be found.
- (D) The remainder of the Facility Price reduction not remitted by the methods described above (Sections 3.b.(A),(B), and (C)), shall be made through a reduction in the Contractor's monthly payments of \$16,500 for the first three years of the Operation Agreement for a total of \$594,000. For those payment reductions not made from the start of the Operation Agreement in October, 1991, until the effective date of this modification, a lump sum deduction shall be made from the Contractor's first monthly payment after the effective date of this modification.
- (E) In the event of default or termination of the Operation Agreement by either Metro or the Contractor, any balances remaining on payment reductions in Sections 3.b.(B), (C) and (D) shall be payable in full.

4. Railroad Crossing Construction and Maintenance Agreement. Contractor shall reimburse Metro for billings from Burlington Northern Railroad for any remaining construction costs and for the maintenance costs for the track and signal equipment for the term of the Operation Agreement. Payments shall be made through reductions in Contractor's monthly payments under the Operation Agreement.

5. Provisions Not Modified. All provisions of the Construction and Operation Agreements not specifically modified herein, including any previous Change Orders thereof, shall remain in full force and effect. All capitalized terms herein defined in the Construction and Operation Agreements shall have the meaning ascribed thereto in such Agreements.

The parties agree, as specified above, on the latter of the dates set forth below.

TRANS INDUSTRIES

METROPOLITAN SERVICE DISTRICT

By: _____

By: _____

F. Ralph Orrino
General Manager

Authorized Representative

(Print name and title)

Date: _____

Date: _____

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 92-1566, FOR THE PURPOSE OF APPROVING AN EXEMPTION FROM THE COMPETITIVE BIDDING REQUIREMENTS AND AUTHORIZING THE EXECUTIVE OFFICER TO EXECUTE AN AMENDMENT TO THE METRO CENTRAL CONSTRUCTION AND OPERATION AGREEMENTS

Date: February 19, 1992

Presented by: Councilor McFarland

Committee Recommendation: At the February 18 meeting, the Committee voted 4-0 to recommend Council adoption of Resolution No. 92-1566. Voting in favor: Councilors Buchanan, Hansen, McFarland and Van Bergen. Councilor Wyers was excused.

Committee Issues/Discussion: Jim Watkins, Solid Waste Department, explained that the purpose of the resolution was to adopt an agreement between Metro and Trans Industries resolving outstanding issues related to Metro's acceptance of the Metro Central Station. Watkins noted that the agreement provided that Metro will receive a total of \$1,930,938 as compensation for the unacceptable operation of two material recovery lines at the facility. The sources of the compensation will include:

-Metro retention of unpaid construction Balance owed to Trans Industries	\$504,438
-Three years of facility maintenance costs at an estimated \$237,500/yr.	\$712,500
-Reduction of monthly Metro payments to Trans Industries, \$16,500/month for 36 months	\$594,000
-Guaranteed minimum salvage for one bag breaker	\$120,000

Watkins responded to questions raised in Council staff analysis. He noted that the value of the defective recovery lines was based on the invoiced cost of the installation of the lines, including equipment costs. The estimate for the value of maintenance costs to be assumed by Trans Industries is based on a Trans Industries estimate of 10% of original equipment costs per year. Watkins explained that this estimate is similar to that included in the two recent proposals for construction of a new transfer station in Forest Grove.

Watkins noted that Metro would retain ownership of the defective lines and that alternative recycling-related uses for the lines will be explored. Metro has not estimated a salvage value for the lines and does not intend to dismantle them in the near future. The budget for the current fiscal year provides \$175,000 for material recovery enhancements at Metro Central. Watkins indicated that these funds would not be used due to the revenue shortfall caused by a decline in solid waste tonnage in the region.

Watkins explained that the \$504,000 in construction funds that will be retained by Metro will be used to supplement an existing appropriation to build a household hazard waste disposal facility at Metro Central. The revised estimated cost of this facility is approximately \$960,000 versus an original appropriation of \$450,000. Watkins indicated that the remaining funds that would be received from the agreement would be used to address the current revenue shortfall.

Councilor McFarland noted that with the Composter not in operation and material recovery rates at Metro Central below expectations, it may be difficult for Metro to reach its waste reduction goals. Bob Martin noted that the Composter closure is only temporary and that while it may be more difficult to reach our waste reduction goals, he was confident that it can be done. McFarland asked about possibly dedicating a portion of the revenue from the agreement to recycling and waste reduction. Martin indicated that the current revenue shortfall would make such a dedication of funds difficult. Martin indicated that any economic or rate incentives to encourage waste or source reduction would need to be considered carefully because of their potential effect on existing private recycling operations.



METRO

2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

Memorandum

To: Solid Waste Committee Members

From: John Houser, Council Analyst

Date: February 11, 1992

Re: Resolution No. 92-1566, For the Purpose of Approving An Exemption From the Competitive Bidding Requirements and Authorizing the Executive Officer to Execute an Amendment to the Metro Central Construction and Operation Agreements

Resolution No. 92-1566 is scheduled to be considered by the Committee at the February 18 meeting.

Background

The purpose of the resolution is to adopt an agreement between Metro and Trans Industries to resolve outstanding construction and acceptance issues relating to Metro Central Station. Staff has prepared an extensive analysis and history of the development of the agreement as Attachment A to the resolution.

Briefly, the negotiations related to the agreement centered on the ineffectiveness of the two mixed waste material recovery lines at Metro Central. Performance testing determined that the amount and types of material that could be recovered from the lines was significantly less than had been forecast in the original facility proposal submitted by Trans Industries. The overall recovery rate during testing was 7.7 % versus an estimated 25.2% in the Trans Industries proposal. Less than .5% of the recovered material came from the MSW recovery lines. Metro staff determined that the lines were ineffective and uneconomical. Though Trans Industries continues to work to improve the two recovery lines, negotiations were held to determine how Metro should be compensated under the constructions and operating agreements with Trans Industries.

Amendments to these agreements are provided by the resolution. The proposed settlements is based on an estimated value of the MSW Lines of between \$1.7 and \$2.1 million and would include:

* A Credit Against the Unpaid Balance due to Trans Industries under the Construction Agreement	\$504,438
* Payment of Certain Maintenance Costs By Trans Industries For Three Year Estimated At (\$237,500 per year)	\$712,500
* Monthly Payment Reduction of \$16,500/month For 36 Months	\$594,000
* Salvage Value of Bag Breaker (MSW Line #2)	\$120,000
<u>Total</u>	\$1,930,938

In addition, the lines will be Metro property and remain in place unless Metro decides to remove them. Trans Industries must continue its efforts to maintain a material recovery rate of at least 5% or the original maintenance agreement can be reinsituted.

Subsequent to Council approval of the agreement amendments, Metro would accept the facility. The Operating Agreement would be considered to have become effective October 1, 1991.

Issues and Questions

The committee may wish to address the following issues related to the proposed resolution:

- 1) How was the estimated value of the lines determined (eg. independent appraisal, Metro staff appraisal, etc.)? Does Trans Industries agree with the value estimate?
- 2) The estimated value of the maintenance costs to be picked up by Trans Industries is based on an estimated annual value of total maintenance costs equal to 10% of the original equipment costs. On what basis was this estimate made (experience at Metro South Station, other facilities, etc.)? Is there a maximum or minimum amount of the maintenance costs to be paid by Trans Industries under the agreement?
- 3) The agreement specifically provides that Metro receive \$120,000 as salvage value for the bag breaker on MSW Line #2. Should Metro choose to remove and dispose of all of the equipment in the two lines, has a salvage estimate been established for the remaining equipment?
- 4) The contract list for FY 91-92 includes two contracts totalling \$175,000 for material recovery "enhancements" at Metro Central. Does the department intend to pursue these contracts and, if so, when and for what purpose?
- 5) The staff report indicates that the \$504,000 construction credit will be used to build the household hazardous waste facility at Metro Central. This facility was originally budgeted at \$450,000. Does staff anticipate that this credit will pay the entire construction cost for the facility? If so, what will the department use the original construction appropriation for?

6) The staff report does not indicate how the department will allocate the maintenance and monthly payment cost savings or the salvage revenue from the bag breaker? Has the department identified potential uses for these funds and, if so, what?

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 92-1566 FOR THE PURPOSE OF APPROVING AN EXEMPTION FROM THE COMPETITIVE BIDDING REQUIREMENTS AND AUTHORIZING THE EXECUTIVE OFFICER TO EXECUTE AN AMENDMENT TO THE METRO CENTRAL CONSTRUCTION AND OPERATION AGREEMENTS

Date: February 10, 1992

Presented by: Jim Watkins

PROPOSED ACTION

That the Contract Review Board of the Metropolitan Service District exempt the amendment, attached as Exhibit A, from the competitive bidding process.

SUMMARY OF FACTUAL BACKGROUND AND ANALYSIS

The contract amendment will modify the Construction Agreement to reduce the facility price of Metro Central Transfer Station by \$1.9 million.

The amendment is the product of negotiations conducted between Metro and Trans Industries after the completion of the Acceptance Test showed that the performance of portions of the materials recovery systems was unacceptable.

The reduction will be remitted to Metro through a credit on the balance due on remaining construction payments, assumption of all maintenance costs at the facility, and a series of monthly payments to cover the remaining balance.

If the amendment is approved by Council, the final activities and procedures required for Acceptance of the facility will be initiated and Acceptance is expected to occur on or before March 31, 1992.

The proposed final settlement assigns the following monetary values to the above terms:

- Credit against unpaid balance due to Trans Industries: \$504,438
- Three years of maintenance costs estimated at \$237,500 per year: \$712,500
- Payment reduction of \$16,500 per month: \$594,000
- Salvage value of bag breaker on MSW Line #2: \$120,000

TOTAL \$1,930,938

Attached to this staff report is an additional report providing background on the plans for material recovery at Metro Central, a summary of the results of the Acceptance Test , detail regarding the negotiations which generated the proposed agreement, and a description of the facility's existing material recovery capabilities.

BUDGET IMPACT

For the first three years of the Operation Agreement, the waste tonnage received at Metro Central Station are expected to be under 35,000 tons per month resulting in a fixed payment of \$285,250 per month to the operator (as adjusted annually by the Consumer Price Index). The proposed settlement will reduce this payment by \$16,500.

For each of the first three years of the Operation Agreement, Metro had expected to incur maintenance and repairs estimated at \$237,500. The proposed settlement will eliminate these expected costs and the risk of even greater expenses.

The credit of \$504,438 against the unpaid balances due Trans Industries on the Construction Agreement will remain in Metro's Construction Account and be available for construction of the Metro Central Household Hazardous Waste Collection Facility.

If Metro elects to salvage the bag breaker, a \$120,000 credit will be obtained through reductions in operating payments made to Trans Industries.

The proposed agreement provides the value to which Metro is entitled and improved terms under which the facility can be operated over the next three years.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends exempting the amendment, attached as Exhibit A, from the competitive bidding process.

STAF0205.RPT
February 10, 1992

ATTACHMENT 1

DETAILED STAFF REPORT ON FOURTH MODIFICATION TO METRO CENTRAL CONSTRUCTION AND OPERATION AGREEMENTS

Introduction

The contract amendment will modify the Construction Agreement to reduce the facility price of Metro Central Transfer Station by \$1.9 million.

The amendment is the product of negotiations conducted between Metro and Trans Industries after the completion of the Acceptance Test showed that the performance of portions of the materials recovery systems was unacceptable.

The reduction will be remitted to Metro through a credit on the balance due on remaining construction payments, assumption by Trans Industries of all maintenance costs at the facility, and a series of monthly payments to cover the remaining balance.

If the amendment is approved by Council, the final activities and procedures required for Acceptance of the facility will be initiated and Acceptance is expected to occur on or before March 31, 1992.

The staff report below provides:

- A background discussion of Metro's original intentions regarding the material recovery capabilities of the facility.
- An overview of the contract issues and events leading up to the conduct of the Acceptance Test, and a description of the results of the test. The discussion will focus on attempted material recovery from the residential waste stream during the test.
- A review of the negotiations which produced the amendment, and a description of the terms of the agreement as expressed in the amendment.
- A description of the materials recovery capabilities of Metro Central Station as presently equipped and operated.

Background - Materials Recovery at Metro Central

The Solid Waste Management Plan's policy guidelines for Metro Central required that options and costs for 10%, 20% and 30% recovery levels at the facility be studied prior to its design. In accord with the plan, a study was conducted by an independent consultant and the information reviewed by Metro management and staff.

Consideration of these issues, however, confirmed doubts about the feasibility of attempting to build or procure a facility whose operator could reasonably guarantee any specific rate of recovery. There were simply too many uncertainties involved. These included: changes in the characteristics of waste streams, volatility in markets for recovered materials, and the experimental nature of many recovery technologies.

The alternative that emerged from these considerations was the "avoided cost" approach. Under this approach, Metro pays to the facility operator an amount equal to the cost of transporting and disposing of materials at the Columbia Ridge Landfill, for any materials recovered for resale through the active efforts of the facility operator. The operator also collects the revenue from the sale of the recovered materials. Under the "avoided cost" approach, the level of recovery at the facility is determined by what is economically feasible for the operator. The operator of the facility has the flexibility to increase or decrease recovery efforts if either markets or waste streams change.

The Request for Proposal approved by Council and issued for the facility required proposers to design material recovery systems for the facility under the assumption that the facility would operate under an "avoided cost" approach. Recognizing that under an avoided cost approach there would not be any guaranteed recovery, the RFP evaluation criteria rated vendors on their corporate resources, experience, and commitment to recovery.

The proposals submitted to Metro varied in their approach to recovery technologies and in their representations as to what levels of recovery were achievable. The proposals in general reflected a lack of industry experience with large scale materials recovery efforts at transfer stations. The industry also had limited experience in proposing optimal systems for recovery under "avoided cost" incentives.

While the expected rate of recovery was an important consideration in the evaluation process, basic and traditional concerns over cost, siting, and the vendor's ability to get the facility on line by January, 1991, had considerable impact on the selection process. It is reasonable to state that Trans Industries' cost proposal, site, and perceived ability to deliver on time were the key factors in its selection. The fact that the recovery rate estimates provided by Trans Industries were among the highest, enhanced the attractiveness of the proposal. Nevertheless, the evaluation report included strong concerns regarding the ability of the material recovery systems proposed by Trans Industries to perform at the levels represented to Metro.

Background - Contracts

Metro signed three agreements with Trans Industries for the Metro Central facility including a Real Estate Purchase and Sale Agreement, a Construction Agreement, and an Operation Agreement. The Real Estate Purchase and Sale Agreement was for the purchase of the site at 6161 NW 61st and was contingent upon Trans Industries obtaining a permit from DEQ for the facility. The permit was obtained and the Real Estate Purchase closed in June 1990.

Under the Construction and Operation Agreements, Trans Industries agreed that the facility would, within 13 months of the contracts' signing (January 1991), be capable of receiving and transferring wastes to the Columbia Ridge Landfill. Completion of construction of the facility's material recovery systems and Acceptance Testing were allowed to take up to an additional 6 months. The Operation Agreement is for five years with Metro having the option of terminating the Agreement without cause at any time after three years. The agreement provided that the term of the Operation Agreement would begin upon Final Acceptance of the facility.

Trans Industries successfully opened the facility on schedule, allowing the closure of St. Johns Landfill to proceed as scheduled. As winter proceeded, the prospect of completing of the materials recovery features of the facility within the remaining time period became problematic.

In early spring, 1991, Trans Industries changed the structure of its project team by placing Ralph Orrino, an experienced manager, in charge of the project. At that time, Metro negotiated an amendment to the operation and construction agreements that resolved operational concerns and reestablished schedules for deliverables that would need to be completed prior to Metro's acceptance of the facility. The negotiations also extended the final Acceptance Date one month to August 15, 1991. This first modification and Mr. Orrino's management helped reestablish an effective, good faith, working relationship between Metro and Trans Industries. Trans Industries fulfilled the requirements of the first modification by completing construction and producing deliverables within the required time frames.

Acceptance Plan

During the spring of 1991, Trans Industries also worked to develop its Acceptance Plan, with Metro staff closely reviewing and commenting on the developing plan. The Construction Agreement required that Trans Industries develop the plan but it was very general with regard to specific form.

Discussions regarding the plan focused on two key issues: First, what was the "Acceptance Phase" to cover, and second, what exactly was the facility required to demonstrate during an "Acceptance Test"?

With regard to the first issue, Metro viewed acceptance more broadly than Trans Industries. Metro was concerned not just with the plan for an "Acceptance Test" period but with developing a process that would also insure that: 1) the facility had been built as designed; 2) the compactors performed properly; and 3) regulatory and permitting requirements had been met. Trans Industries was responsive to these concerns and incorporated this approach into their plan.

With regard to the issue of what the facility would be required to demonstrate during the Acceptance Test, both parties agreed that the criteria for the Acceptance Test would have to be consistent with specifications in the Construction Agreement and with representations made by Trans Industries in its original proposal. The Construction Agreement specified that the facility be capable of transferring 2500 tons per day of waste and that the process lines function properly. The proposal provided the expected recovery rates for each of the lines.

Acceptance Test Processing Plan

Trans Industries original proposal assumed that 90% of the waste brought to the facility would be from commercial haulers and 10% would be self hauled. Of the commercial hauled waste, half was considered to come from "commercial" sources and half from "residential" sources.

The proposal stated that the residential portion of the commercially hauled waste would be processed over the "mixed solid waste" process lines (MSW Lines #1 and #2), recovering 15% of the material processed. The commercial portion of the commercially hauled waste was considered to be about half "office" waste which would be processed on the "Commercial Line," where a 30% recovery rate was projected. A little less than a quarter of the commercial waste was designated as "construction" waste, and was to be sent to the wood line where a 75% recovery rate was expected. The remaining fraction was to be sent directly to the compactors. Recovery from self haul was to be limited to removing materials suitable for the wood line.

At the these recovery rates, the proposal anticipated that the recovery profile for the facility would be as follows (percentages are of all waste received at the facility):

MSW Lines	6.8%
Commercial Line	6.6%
Wood Line	9.6%
Source Separated (from self haul)	2.2%
TOTAL	25.2%

When Trans Industries began to operate the lines during the shakedown period preceding the test, the simple operational plan described in the proposal and summarized above was shown to be inadequate. Much of the commercially hauled waste arriving at the facility was a mix of residential and commercial materials, with the residential wastes often contaminating the commercial materials. In addition, it was often unknown what types of materials were included in each load until it was tipped on the floor. As a result, it was necessary to develop a number of "preprocessing" procedures. These included removing large contaminants (hazardous wastes, concrete, tires), pulling large recyclable items (metals, cardboard, wood), and presorting and pushing materials to the front of the appropriate process line. Trans Industries also had to embark on a learning curve with regard to the actual recovery capabilities and operating parameters (line speed, material in feed rates etc.) of each of the process lines.

Acceptance Test Results

As the day for the start of the Acceptance Test approached (June 24, 1991), Metro and Trans Industries agreed that it would be useful to delay its start. It was agreed that a delay could provide the opportunity to develop better operational procedures and greater experience in running the materials recovery equipment. The test was reset for late August and final Acceptance extended to mid November.

The test was conducted over the three week period beginning August 26, 1991 and ending September 14, 1991. During this time the facility operated normally, handling approximately 6,400 tons of waste each week. This flow represented about half the facility's required capacity. (1200 tons per day based on five days per week. Little commercial waste is received on Saturday and Sunday). On average about 1,500 tons of the weekly tonnage was residual material from the Riedel Compost Facility and was not suitable material for any recovery efforts. The Riedel residual was delivered to Metro Central in order to compact the waste into Jack Gray Transport trailers as the compost facility did not have a compactor. In addition, approximately 300 tons per week of direct haul material was back hauled to Riedel to fulfill Metro's contractual obligations to Riedel. Tables 1,2, and 3 show the basic test results.

TABLE 1 Summary of Waste Processing
Amounts in Tons - for 3 week test period

Waste Received	19,051
Reidel Residual	4,618
Riedel Backload	921
Available for recycling	13,511
Recycled	1,044
% Recycled of Available	7.7%

TABLE 2 Summary of Recovered Materials
Amounts in Tons Recovered - for 3 week test period

	OCC	Wood	Mixed Paper	Ferrous	Al	Tires	Batteries	News	Glass	Tin Cans	TOTALS
Floor Sort	120.2			98.2		9.3	1.2				228.9
MSW 1,2 & Commercial Line			48.0		0.2						48.2
Wood Line		764.5									764.5
Source Separated								1.4		0.8	2.1
TOTALS	120.2	764.5	48.0	98.2	0.2	9.3	1.2	1.4		0.8	1043.7

TABLE 3 Summary of Recovered Materials
As Percentage of Waste Available for Recovery - for 3 week test period

	OCC	Wood	Mixed Paper	Ferrous	Al	Tires	Batteries	News	Glass	Tin Cans	TOTALS
Floor Sort	.89%			.73%		.07%	.01%				1.69%
MSW 1,2 & Commercial Line			.36%		.00%						.36%
Wood Line		5.66%									5.66%
Source Separated								.01%		.01%	.02%
TOTALS	.89%	5.66%	.36%	.73%	.00%	.07%	.01%				7.72%

Discussion of Test Results

MSW Lines and Residential Waste

During the test period, it was clearly demonstrated that the MSW lines were not suitable for recovering materials from a "residential" waste stream. While the lines could function for several hours at a time without excessive mechanical breakdown, an insignificant amount of material was recovered, when they were used to process residential waste. Even during the shakedown period, it was quite apparent that the only way in which significant quantities of materials would be recovered by the MSW lines was if the lines were supplied with materials already relatively rich in recoverables. Nevertheless, one test day was devoted to running residential waste over an MSW line. While a large amount of material went through the line, the predominate "recovered" material was a very contaminated mixed paper product. The test run conclusively established the lines' basic inability to recover marketable materials from the residential waste stream.

MSW Lines and Commercial Waste

Trans Industries concentrated its efforts during the test period to refining operational procedures for use of the MSW lines to extract recoverables (primarily mixed paper) from dry mixed waste loads from offices, stores or other commercial sources. Residential waste was generally pushed directly to the compactors or back hauled to the compost facility. The standard procedure was to identify loads or parts of commercial loads which appeared to have a large percentage of recoverable mixed paper in them. These loads were then preprocessed by removing large contaminants, and breaking and removing plastic bags.

Because only limited amounts of the dry commercial material was entering the facility, the lines were able to run only 1 to 3 times a week, and then for only 2 to 4 hour periods at a time. During the test period, there was enough of the dry commercial material to run the MSW lines a total of just over 35 hours. The total amount of material recovered from these dry wastes was approximately 48 tons of mixed paper and a small amount of aluminum (beverage cans). For the test period, when using the dry commercial wastes the lines had a through put rate of approximately 14 tons per hour and an average recovery rate of under 10% of the material processed over the line. By the end of the test period, the recovery rate was probably higher as personnel became more experienced, especially in preselecting and preprocessing materials. However, many of the techniques that can be used to increase recovery are labor intensive. Given the low market prices for the recovered mixed paper product, the extra steps may not be very cost effective.

During the first week of the test period, it became increasingly evident that the bag breaker on MSW #2 harmed rather than helped the recovery process. Because the lines are functionally similar excepting the bag breaker, most testing was therefore done on MSW #1.

Commercial Line

Testing of the Commercial Line was limited due to the lack of suitable material being received at the facility. Testing did demonstrate that the line functioned well mechanically and was capable of removing contaminants from suitable loads. Trans Industries has experimented with using the Commercial Line for secondary processing of mixed paper recovered from the MSW lines in order to raise the grade of the paper product. At the present time, however, paper prices do not justify the added labor costs.

Wood Line

During the test period, the wood line was responsible for almost three quarters of the total amount of recovered materials. The line ran most test days (excluding weekends) for 2 to 4 hours each day for a total of approximately 40 hours. The line was demonstrated to be capable of processing up to 40 tons per hour.

Compactors

The compactors were tested during the acceptance period in accord with previous agreements negotiated between Metro, Trans Industries, and Jack Gray Transport regarding the acceptability of the two Shredding System Inc. (SSI) compactors Trans Industries had purchased. The tests demonstrated that the SSI compactors would not damage the transfer trailers and could perform at the required contract specifications of 100 tons per hour. The Amfab compactor was also tested and passed the performance specification.

Analysis

Staff believes that attempts at recovery from the "post-consumer" residential waste stream are inherently difficult. The inability of the MSW lines to recover materials is a result of design inadequacies rather than the method of construction. The lines were a refinement and modification of Rabanco's technology for recovery of material from "commingled" recyclables, that clearly does not work when applied to the raw residential waste stream.

Staff believes the MSW lines failed for two primary reasons. First, Trans Industries greatly overestimated the ability of the lines to produce suitable recoverable materials. While parts of the lines function properly - separated lights and heavies, removed ferrous materials, etc. - the products that emerge are too contaminated to qualify as "recovered" by any reasonable marketing standard. While extensive further manual sorting might result in production of a useful product, the effort would not be cost effective. Both Metro and Trans Industries have agreed that the MSW lines as designed and constructed could not feasibly be modified to improve their performance on the residential waste stream.

Second, staff believes Trans Industries estimates of what was recoverable from the residential waste stream were much too optimistic. The residential waste stream as it arrives at a transfer station is simply too mashed and contaminated for a successful mechanical recovery process.

Negotiated Settlement

The Acceptance Test demonstrated that while the facility was able to function and process materials at adequate throughput levels, the level of materials recovery was well below expectations. Metro believed that Trans Industries personnel had worked hard to conduct the test in good faith, and determined that rerunning the test would not significantly improve the level of recovery. Metro and Trans Industries therefore entered into discussions over the conditions under which the facility could be accepted by Metro.

The discussions produced a settlement with the following framework:

- Metro receives compensation for the failure of MSW Lines #1 and # 2 to perform their intended function. The amount of compensation was negotiated at \$1.9 million. The lines, however, will be Metro's property and remain in place unless Metro decides to remove them.
- The compensation package will include:
 1. A credit to Metro for the unpaid balance due Trans Industries on the Construction Contract.
 2. Trans Industries is responsible for all maintenance and repair costs for the three year term of the Operation Agreement.
 3. A reduction in the required monthly payment .
 4. If Metro decides to remove the bag breaker on MSW Line #2, Metro is guaranteed to receive a salvage value of at least \$120,000.

The proposed final settlement assigns the following monetary values to the above terms:

- | | |
|--|-----------|
| • Credit against unpaid balance due to Trans Industries: | \$504,438 |
| • Three years of maintenance costs, at \$237,500 per year: | \$712,500 |
| • Payment reduction of \$16,500 per month: | \$594,000 |
| • Salvage value of bag breaker on MSW Line #2: | \$120,000 |

TOTAL	\$1,930,938
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The structure of the proposed compensation package was a result of intensive negotiations. While a simple cash settlement was always considered an option, several approaches to structuring a compensation package were explored. The proposed package is one which provides mutual advantages. For Metro, the proposed agreement provides the value to which we are entitled and improved terms under which the facility can be operated over the next three years.

Negotiation Details

MSW Lines

Negotiations first focused on determining a value for the MSW lines. Metro's contract with Trans Industries for the Metro Central facility is for a fixed price plus the value of change orders. The fixed price did not include a breakdown for the cost for the MSW lines.

In estimating a value for the MSW lines, Metro staff looked at Trans Industries original proposal and the schedule of values for the project under which Trans Industries had been paid during construction. On this basis, Metro staff estimated a value for the MSW Lines #1 and #2, including shakedown and testing costs, of between \$1.7 and \$2.1 million. Trans Industries also came to the negotiations with estimates of what they actually expended on construction of the lines.

During these discussion, the parties agreed that the MSW Lines as constructed should remain in place since they may prove to be of some value in the future. Metro will own the MSW Lines and receive any salvage value should Metro order parts of or all of the lines removed. In particular, it was agreed that should Metro order the bag breaker (actually a shredder) on MSW Line #2 removed, Trans Industries would guarantee Metro a salvage value of not less than \$120,000.

Maintenance Costs

Under the Operation Agreement, Trans Industries is responsible for routine and periodic maintenance items, while Metro is at risk for 50% of all other repair and maintenance costs beyond \$25,000 per year. During the discussion over the MSW line's values, Trans Industries offered the suggestion they be allowed to pay part of whatever compensation was due by assuming Metro's share of maintenance costs under the Operation Agreement.

Trans Industries' offer to assume these costs is favorable to Metro for at least two reasons. First, without the change, Metro and Trans Industries are likely to engage in disputes and suffer high administrative costs over determining which costs are for periodic maintenance costs and which are shared costs. Second, under the change, Trans Industries will have twice the incentive to perform the preventative maintenance and repairs which, if neglected, might lead to major or catastrophic equipment failure. Given that such costs (for example, a compactor failure) could be substantial, this element of the proposed agreement represents a substantial reduction in risk exposure for Metro.

The proposed settlement estimates annual nonroutine maintenance and repair costs for the equipment in the station as 10% of original capital equipment costs. For the settlement, the value of waste handling and material recovery equipment (excluding the MSW Lines) at Metro Central was estimated at \$5 million. Nonroutine maintenance and repair would therefore be estimated at \$500,000 per year. After subtracting the \$25,000 per year Trans Industries

would be required to pay under the original agreement, the cost being assumed by Trans Industries can be calculated as 50% of \$475,000 or \$237,500 per year.

Metro staff believe this is a reasonable estimate of the costs Trans Industries will be assuming. First, the amount is based on a \$5 million equipment estimate. This estimate is conservative and does not include the capital cost of building systems (for example, the roof fans) that may require repair and extra maintenance. Second, the estimate also does not put a value on the reduction in risk exposure Metro would receive.

The proposed final settlement also includes a condition that Trans Industries show a continued effort at materials recovery of at least 5% or the original cost sharing maintenance agreement can be reinstated by Metro. This level of recovery is primarily achieved by operating the wood line. Metro believes that the wood line has high maintenance costs. Should Trans Industries choose not to operate the line, Metro believes that the proposed maintenance agreement would be unfairly generous.

Development of Final Compensation Package

The last issue in the negotiations was to determine what monthly payment would be required to defray the balance of the compensation after subtracting the credit for the construction balance, maintenance costs, and the bag breaker. In order to reach a settlement which was relatively easy to administer, final discussions settled on setting a fixed monthly payment reduction acceptable to both parties. The amount agreed upon was \$16,500 for 36 months for a total of \$594,000.

The sum of the parts of the compensation package totals slightly more than \$1.9 million. Metro staff recognizes that a more technical analysis of the monthly payment and maintenance costs parts of the package in "present dollars" terms could give a different value depending on what interest and inflation rates were used. However, during negotiations both parties were well aware of these factors, so the proposed package should be viewed as having internalized these considerations.

The basic package was settled upon before the contract's November 15 Acceptance Date deadline. However, staff determined that the reduction in facility price was a change which would require Metro Council action. As a result, Metro and Trans Industries agreed to a modification to the agreements which would extend the Acceptance Date until Council action but would make the term of the Operation Agreement commence as of October 1, 1991.

Existing and Future Materials Recovery at Metro Central

Wood Line

Both during the Acceptance Test and in the weeks since, the major source of materials recovered at the facility has been the wood processing line. At the present waste flows, the line produces about 900 tons per month. The wood line has been used to mainly produce hog fuel but also could be used to produce chips for chipboard. Trans Industries has chosen to produce hog fuel because the market prices are good (\$20 per ton less \$10 per ton in transport costs), and the fact that they are able to blend in small amounts of yard debris, brown paper, and wax cardboard.

The output of the wood line is primarily limited by the availability of wood wastes. If there were more wood, it would also be possible to mix in more scrape paper material. At the present time, the line is run 3 days a week with 2 other days devoted to maintenance. Trans Industries estimates that it could be relatively easy to increase output from the existing 80 tons per day to 200 tons per day.

MSW Lines

In the months following the Acceptance Test, Trans Industries continued efforts to process dry commercial waste loads on MSW Line #1. They have refined their preprocessing procedures and attempted to determine the most effective and efficient use of labor. During December 1991, the line recovered 236 tons of mixed paper which was marketed at \$10 per ton.

At the present time, however, the price for mixed paper has dropped to \$3.50 per ton. At this price, Trans Industries has stated that, even with the "avoided cost" incentive, running the lines is not cost effective. They are looking at the cost effectiveness of improving the grade, and thus the market price, of their paper product through increased processing. Whether that effort would be cost effective is an open question, as the extra processing generally involves very labor intensive efforts to remove contaminants such as plastic bags and plastic film.

Nevertheless, Trans Industries is still running the lines when there are good paper loads available and to test new operational procedures. If paper market prices improve, they could be well positioned to take advantage of the opportunity.

Floor Sort

"Dump and pick" operations are the most important recovery activity which occurs at the facility. Almost all the material which goes on the wood line was sorted out from loads tipped on the floor. While the amount of corrugated cardboard (OCC) recovered looks modest (165 tons in December, 1991), it gets a very good price on the market of \$60 per ton. Mixed scrap metals is also a relatively valuable commodity. Trans Industries is able to pull over 100 tons per month for which it receives \$40 per ton.

Source Separated

The amount of source separated material arriving at the facility is relatively small - between 12 and 15 tons per month. During the first months of operation, Trans Industries had a problem with materials such as newspaper and glass being rejected by buyers due to contamination. In order to eliminate this problem, Trans Industries has instituted new procedures where self hauler customers place their recyclables in small containers which are then checked for contaminants and consolidated into the larger drop boxes by TI employees.

Trans Industries has the Metro contract to deal with the source separated yard debris which comes to the facility. They have been using the wood line to mix this material with the hog fuel or to generate a cover material used at the landfill. Accounting procedures are used which insures that Trans Industries does not receive the avoided cost credit for the source separated yard debris.

TABLE 4 Summary of Waste Processing
Amounts in Tons - for December 1991

Waste Received	28,399
Reidel Residual	6,548
Riedel Backload	2,471
Available for recycling	23,458
Recycled	1,460
% Recycled of Available	6.2%

TABLE 5 Summary of Recovered Materials
Amounts in Tons Recovered - for December 1991

	OCC	Wood	Mixed Paper	Ferrous	Brass	Copper	Motors	Al	Tires	Batteries	News	Glass	Tin Cans	TOTALS
Floor Sort	165.2			111.5	0.4	0.1	1.8	3.5		0.9				283.3
MSW 1,2 & Commercial Line			236.2											236.2
Wood Line		899.0												899.0
Source Separated		41.0												41.0
TOTALS	165.2	940.0	236.2	111.5	0.4	0.1	1.8	3.5	0.0	0.9	0.0	0.0	0.0	1459.6

TABLE 6 Summary of Recovered Materials
As Percentage of Waste Available for Recovery - for December 1991

	OCC	Wood	Mixed Paper	Ferrous	Brass	Copper	Motors	Al	Tires	Batteries	News	Glass	Tin Cans	TOTALS
Floor Sort	0.70%			0.48%	0.00%	0.00%	0.01%	0.01%		0.00%				1.21%
MSW 1,2 & Commercial Line			1.01%											1.01%
Wood Line		3.83%												3.83%
Source Separated		0.17%												0.17%
TOTALS	0.70%	4.01%	1.01%	0.48%	0.00%	0.00%	0.01%	0.01%		0.00%				6.22%