M E M O R A N D U M

METRO

DATE: January 31, 1997

TO: Rate Review Committee

FROM: Bruce A. Warner, Director, Regional Environmental Management

RE: Committee Meeting -- February 5, 1997

Attached is the agenda for the February 5, 1997, Rate Review Committee meeting. Attached are the items requested to assist you in preparing for the meeting.

Attachment A -- Rate Model for FY 1997-98

Attachment B -- 5 Year History of Budget Costs Allocated to the Solid Waste Disposal Rate

Attachment C -- 2 Year History Budget Summary with Projections for FY 1996-97

Attachment D -- 5 Year History Adopted Budget Summary

Attachment E -- Tonnage Information

Attachment F -- FY 1997-98 Budget Narrative Justification for Transfers, Contingency and Unappropriated Balance

Attachment G -- Staff Report for Change Order No. 7 to the Waste Disposal Service Contract

Attachment H -- Summary of Rate Policy Changes Approved by the Rate Review Committee

Attachment I -- Summary of Regional Environmental Management Major Events

Attachment J -- Black and Veach Report on Analysis of Rate Setting Practice

Attachment K -- Financial Consulting Solutions Group, Inc., Report on Reserve Fund Fiscal Policies

The Excise Tax for FY 1997-98 is assumed to be 7.5% and the interest earnings rate is assumed to be 5.5%. Disposal costs reflect the recently approved changes to the Waste Disposal Services Contract.

A new, special regional user fee of $5.00 per ton, is introduced in FY 1997-98 for certain special waste streams that have no economically recoverable content and no waste management alternative but landfilling. This new rate will replace the Regional User Fee for these types of waste. The use of limited tiered rates for specific types of waste was a modification suggested by stakeholders during the rate restructuring process undertaken in FY 1995-96 and FY 1996-97.

BAW:MR:aey

cc: Mike Burton, Executive Officer
Bruce Warner, Director, Regional Environmental Management
Ruth McFarland, Metro Councilor
Jon Kvistad, Chair of the Metro Council
Susan McLain, Metro Councilor
Roosevelt Carter, Budget & Finance Manager
Terry Petersen, Environmental Services Manager
Doug Anderson, Acting Waste Reduction & Planning Services Manager
Jennifer Sims, Finance & Management Information Director
Craig Prosser, Financial Planning Manager
Dennis Strachota, Principal Administrative Services Analyst
Maria Roberts, Principal Administrative Services Analyst
Jeff Stone, Senior Management Analyst
Tim Raphael, Executive Analyst
Marv Fjordbeck, Senior Assistant Counsel
Leo Kenyon, Office of the Auditor
John Houser, Senior Council Analyst
Lindsay Ray, Council Assistant
Jennifer Smit, Administrative Secretary
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29-Jan-97

REGIONAL ENVIRONMENTAL MANAGEMENT
FY 1997-98

ATTACHMENT A

DIVISION/ Expense Category		Shared cost effect on Rate (Costs/Reg Ton (1,103,989)	EXPENSES (in dollars) Regional User Fee (Fixed)	Metro System User Fee (Fixed)	Regional Transfer Charges Station Operation	Disposal Fee Transport/ Disposal	Total
ADMINISTRATION							
Personal Services	1	$0.86	$951,554				$951,554
Material & Services	1	0.35	386,110				386,110
GENERAL ACCT. - Cap. Outlay	1	0.02	17,049				17,049
TOTAL ADMINISTRATION		$1.23	$1,354,713	$0	$0	$0	$1,354,713
BUDGET & FINANCE							
Personal Services	1	$0.42	$464,070				$464,070
Material & Services:							0
DEQ Payments	0	0	790,374				790,374
Other	1	0.13	147,019				147,019
GENERAL ACCT. - Cap. Outlay	1	0.07	73,100				73,100
TOTAL BUDGET & FINANCE		$0.62	$1,474,563	$0	$0	$0	$1,474,563
ENVIRONMENTAL SERVICES							
MANAGEMENT SERVICES							
Personal Services	0	$0	$270,542				$270,542
Material & Services	0	0	397,101				397,101
GENERAL ACCT. - Cap. Outlay	0	0	0				0
TOTAL MANAGEMENT SERVICES		$0	$667,643	$0	$0	$0	$667,643
METRO TRANSFER STATIONS							
Personal Services	0	$0		$888,025			$888,025
Material & Services	0	0		390,624			390,624
GENERAL ACCT. - Cap. Outlay	0	0		42,118			42,118
TOTAL TRANSFER STATIONS		$0	$0	$1,320,767	$0	$0	$1,320,767
HAZARDOUS WASTE							
Personal Services	0	$0	$1,282,728				$1,282,728
Material & Services	0	0	1,654,904				1,654,904
GENERAL ACCT. - Cap. Outlay	0	0	25,000				25,000
TOTAL HAZARDOUS WASTE		$0	$2,962,632	$0	$0	$0	$2,962,632
ENFORCEMENT							
Personal Services	1	$0.11	$117,386				$117,386
Material & Services	1	0.41	451,825				451,825
GENERAL ACCT. - Cap. Outlay	1	0.01	10,000				10,000
TOTAL ENFORCEMENT		$0.52	$579,211	$0	$0	$0	$579,211

REGIONAL ENVIRONMENTAL MANAGEMENT
FY 1997-98

DIVISION/ Expense Category		Shared cost effect on Rate (Costs/Reg Ton (1,103,989)	EXPENSES (in dollars) Regional User Fee (Fixed)	Metro System User Fee (Fixed)	Regional Transfer Charges Station Operation	Disposal Fee Transport/ Disposal	Total
HEALTH & SAFETY							
Personal Services	0	$0		$70,415			$70,415
Material & Services	0	0		148,914			148,914
GENERAL ACCT. - Cap. Outlay	0	0	0	36,800			36,800
TOTAL HEALTH & SAFETY		$0	$0	$256,129	$0	$0	$256,129
DISPOSAL SERVICES							
Personal Services	0			$0			$0
Material & Services	0					425,626	425,626
Station Operation	0				4,920,294		4,920,294
Yard Debris (Station Operation)	0						0
Yard Debris (Hauling & Processing)	0					20,200	20,200
Disposal Fees (Landfill)	0					16,151,922	16,151,922
Disposal Fees (Hazardous Material)	0		0				0
Transport Fees	0					9,051,658	9,051,658
Fixed Costs - Transport	0			829,400			829,400
Fixed Costs - Disposal	0			0			0
Recycling Avoided Costs	0		1,601,874				1,601,874
Marion County Disposal	0					29,010	29,010
Marion County Transport	0					6,570	6,570
GENERAL ACCT. - Cap. Outlay	0						0
TOTAL DISPOSAL SERVICES		$0	$1,601,874	$829,400	$4,920,294	$25,684,986	$33,036,554
TOTAL ENVIRONMENTAL SERVICES							
Personal Services	0	$0	$1,670,656	$958,440	$0	$0	$2,629,096
Material & Services	0	0	4,105,704	1,368,938	4,920,294	25,684,986	36,079,922
GENERAL ACCT. - Cap. Outlay	0	0	35,000	78,918	0	0	113,918
TOTAL ENVIRONMENTAL SERVICES		$1	$5,811,360	$2,406,296	$4,920,294	$25,684,986	$38,822,936
ENGINEERING							
Personal Services	0		$920,748				$920,748
Material & Services	0		762,414				762,414
GENERAL ACCT. - St. Johns Landfill	0		96,500				96,500
TOTAL ENGINEERING		$0	$1,779,662	$0	$0	$0	$1,779,662
WASTE REDUCTION							
Personal Services	0		$1,186,221				$1,186,221
Material & Services	0		2,012,023				2,012,023
GENERAL ACCT. - Cap. Outlay	0		0				0
TOTAL WASTE REDUCTION		$0	$3,198,244	$0	$0	$0	$3,198,244

REGIONAL ENVIRONMENTAL MANAGEMENT
FY 1997-98

DIVISION/ Expense Category		Shared cost effect on Rate (Costs/Reg Ton (1,103,989)	EXPENSES (in dollars) Regional User Fee (Fixed)	Metro System User Fee (Fixed)	Regional Transfer Charges Station Operation	Disposal Fee Transport/ Disposal	Total
TOTAL SOLID WASTE DEPARTMENT							
Personal Services	0	$1.39	$5,193,249	$958,440	$0	$0	$6,151,690
Material & Services	0	0.89	8,203,644	1,368,938	4,920,294	25,684,986	40,177,862
GENERAL ACCT. - Cap. Outlay	0	0.09	221,649	78,918	0	0	300,567
SUBTOTAL		$2.37	$13,618,542	$2,406,296	$4,920,294	$25,684,986	$46,630,119
CONTINGENCY- CAPITAL RESERVE		$0	$0	$0	$0	$0	$0
OTHER ACCOUNTS							
Metro Central Construction	0						$0
Renewal and Replacement Account	0			587,065			587,065
St. Johns Closure Account	0		0				0
Other General Account	0		0	0			0
Other	0			0			0
Other	0		0				0
Debt Service- Metro Central Bonds	0	0	0	2,666,026			2,666,026
TOTAL OTHER ACCOUNTS		$0	$0	$3,253,091	$0	$0	$3,253,091
TRANSFERS							
Support Services - Indirect	1	$2.06	$2,272,898				$2,272,898
Support Services - Direct	1	0.09	103,561				103,561
Building Fund - Indirect	1	0.31	341,262				341,262
Building Fund -Direct	0	0	117,000				117,000
Liability/Property Program	0	0	63,556				63,556
Workers Comp	0	0	35,492				35,492
Transportation Fund	0	0	366,147				366,147
Smith/Bybee Lakes Fund	0	0	25,545				25,545
Environmental Insurance	0	0	0				0
TOTAL TRANSFERS		$2.46	$3,325,461	$0	$0	$0	$3,325,461
TOTAL EXPENSES FY 97-98		$4.83	$16,944,003	$5,659,387	$4,920,294	$25,684,986	$53,208,671

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REGIONAL ENVIRONMENTAL MANAGEMENT
FY 1997-98

EXPENSES (in dollars)

DIVISION/ Expense Category	Shared cost effect on Rate (Costs/Reg Ton (1,103,989)	Regional User Fee (Fixed)	Metro System User Fee (Fixed)	Regional Transfer Charges Station Operation	Disposal Fee Transport/ Disposal	Total

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REGIONAL ENVIRONMENTAL MANAGEMENT
FY 1997-98

REVENUES (in dollars)

Revenue Category	Special Industrial Rate	Regional User Fee (Fixed)	Metro System User Fee (Fixed)	Regional Transfer Charges Station Operation	Disposal Fee Transport/ Disposal	Total
LESS REVENUE:						
Miscellaneous	$0	$283,218	$0	$0	$31,100	$314,318
DEQ Fees		791,111				791,111
Tire Hauling and Disposal Chgs.		0			48,192	48,192
Salvage (Recycling)			4,000			4,000
Investmt Inc.	0	315,260	313,227	91,547	477,895	1,197,929
Contracts Carryover		0	0	0	0	0
Fund Balance		0	0	0	0	0
Forest Grove Additional Fee		$0			752,353	752,353
Yard Debris Fees		$0			249,907	249,907
TOTAL MISCELLANEOUS REVENUE FY 97-98	$0	$1,389,589	$317,227	$91,547	$1,559,447	$3,357,810
TOTAL NET EXPENSES FY 97-98		$15,554,414	$5,342,160	$4,828,747	$24,125,539	$49,850,861
Special Waste Net Revenue		330,735				
Net required from Regional User Fee and Metro Tip Fee	$0	$15,223,679	$5,342,160	$4,828,747	$24,125,539	$49,520,126

REGIONAL ENVIRONMENTAL MANAGEMENT
FY 1997-98

TONNAGE (Per Rate Component)	Special Industrial Rate	Regional User Fee (Fixed)	Metro System User Fee (Fixed)	Regional Transfer Charges Station Operation	Disposal Fee Transport/ Disposal	Total
ST JOHNS		0	0	0	0	
METRO SOUTH		324,955	324,955	324,955	324,955	
METRO CENTRAL		351,208	351,208	351,208	351,208	
NON-METRO	71,108	356,718	0	0	0	
		0				
	71,108	1,032,881	676,163	676,163	676,163	
BASE RATE/ Per Ton	$4.83	$14.74	$7.90	$7.14	$35.68	$65.46
Excise Tax (rate 7.50%)	0.36	1.11	0.59	0.54	2.68	4.92
Base rate + Excise Tax(Not adjusted)	5.19	15.85	8.49	7.68	38.36	70.38
Base rate + Excise Tax (Adjusted)	**5.00**	**16.00**	**8.50**	**7.70**	**37.13**	**69.33**
DEQ Promotional Fee+Other Fees						1.04
DEQ Orphan Site Fee						0.13
Rehab. & Enhancement Fee						0.50
TOTAL RATE/ Per Ton						**$71.00**

TONNAGE		REVENUE	
TOTAL METRO	676,163	NET REVENUE COLLECTED (All rates):	$49,247,823
TOTAL NON-METRO (EXCLUDES INDUSTRIAL)	356,718	NET REVENUE REQUIRED: (All rates)	$49,850,861
TOTAL REGIONAL (EXCLUDES INDUSTRIAL)	1,032,881		
INDUSTRIAL	71,108	ABOVE/(BELOW REQUIREMENTS)	($603,038)
TOTAL REGIONAL TONNAGE	1,103,989		

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BUDGET COSTS ALLOCATED TO SOLID WASTE DISPOSAL RATE

Division/Expense Category	FY 93-94	FY 94-95	% Increase Decrease from 93-94	FY 95-96	% Increase Decrease from 94-95	FY 96-97	% Increase Decrease from 95-96	Proposed FY 97-98	% Increase Decrease from 96-97
All Divisions Except Operations									
Personal Services	**$3,046,284**	**$3,254,998**	**6.9%**	**$3,625,207**	**11.4%**	**$3,633,033**	**0.2%**	**$3,522,594**	**-3.0%**
FTE	57.15	54.80	-4.1%	60.65	10.7%	60.15	-0.8%	55.2	-8.2%
Materials & Services	**2,780,895**	**3,207,467**	**15.3%**	**3,877,907**	**20.9%**	**4,142,405**	**6.8%**	**4,097,940**	**-1.1%**
Payments to Other Agencies (Grants)	533,000	590,000	10.7%	720,000	22.0%	944,000	31.1%	751,000	-20.4%
DEQ	798,063	843,620	5.7%	834,645	-1.1%	758,509	-9.1%	790,374	4.2%
Other	1,449,832	1,773,847	22.3%	2,323,262	31.0%	2,439,896	5.0%	2,556,566	4.8%
Operations									
Personal Services	**2,087,430**	**2,362,635**	**13.2%**	**2,331,477**	**-1.3%**	**2,417,687**	**3.7%**	**2,629,096**	**8.7%**
Total FTE	47.15	48.15	2.1%	48.90	1.6%	48.90	0.0%	48.90	0.0%
Scalehouse Operations	717,179	767,806	7.1%	797,369	3.9%	842,319	5.6%	958,440	13.8%
All Other Programs	1,370,251	1,594,829	16.4%	1,534,108	-3.8%	1,575,368	2.7%	1,670,656	6.0%
Materials & Services	**38,667,222**	**43,046,575**	**11.3%**	**42,196,426**	**-2.0%**	**39,281,143**	**-6.9%**	**36,079,922**	**-8.1%**
Scalehouse and Disposal Operations	827,904	841,484	1.6%	1,011,351	20.2%	1,079,094	6.7%	816,250	-24.4%
All Other Programs	1,663,004	1,537,874	-7.5%	1,100,695	-28.4%	1,471,657	33.7%	1,653,486	12.4%
Oregon Waste System (Fixed & Variable)	17,752,575	20,291,282	14.3%	19,736,068	-2.7%	19,015,804	-3.6%	16,151,922	-15.1%
Jack Gray Transportation (Fixed & Variable)	9,568,005	11,440,762	19.6%	11,789,206	3.0%	10,227,866	-13.2%	9,881,058	-3.4%
TransIndustries (Central)	3,494,407	3,700,985	5.9%	3,502,936	-5.4%	3,469,831	-0.9%	3,462,133	-0.2%
Waste Management (South)	1,518,947	1,674,002	10.2%	1,691,285	1.0%	1,548,748	-8.4%	1,458,161	-5.8%
Hazardous Waste Disposal Contracts	1,588,000	1,893,400	19.2%	1,651,160	-12.8%	720,097	-56.4%	999,258	38.8%
Recycling Avoided Costs	911,319	926,218	1.6%	946,852	2.2%	1,016,236	7.3%	960,187	-5.5%
Recycling Fiber Based Fuel	919,559	433,422	-52.9%	519,744	19.9%	548,656	5.6%	641,687	17.0%
Marion County Disposal & Transportation	245,742	205,379	-16.4%	145,362	-29.2%	85,634	-41.1%	35,580	-58.5%
Other Disposal Costs (Yard Debris, etc)	177,760	101,767	-42.8%	101,767	0.0%	97,520	-4.2%	20,200	-79.3%
Other Accounts	**5,647,843**	**6,588,024**	**16.6%**	**6,096,141**	**-7.5%**	**5,264,373**	**-13.6%**	**3,553,658**	**-32.5%**
Capital Outlay	440,610	661,670	50.2%	1,154,885	74.5%	1,034,534	-10.4%	300,567	-70.9%
Contingency	0	640,000	NA	0	-100.0%	975,900	NA	0	-100.0%
Contributions to Renewal & Repla. Acct.	732,000	587,065	-19.8%	587,065	0.0%	587,065	0.0%	587,065	0.0%
Contributions to St. Johns Account	1,450,000	1,685,000	16.2%	1,685,000	0.0%	0	-100.0%	0	NA
Debt Service (Central and Fiber Based Project)	3,025,233	3,014,289	-0.4%	2,669,191	-11.4%	2,666,874	-0.1%	2,666,026	0.0%

ATTACHMENT B

BUDGET COSTS ALLOCATED TO SOLID WASTE DISPOSAL RATE

Division/Expense Category	FY 93-94	FY 94-95	% Increase Decrease from 93-94	FY 95-96	% Increase Decrease from 94-95	FY 96-97	% Increase Decrease from 95-96	Proposed FY 97-98	% Increase Decrease from 96-97
Transfers	**3,742,264**	**3,231,991**	**-13.6%**	**3,007,502**	**-6.9%**	**3,134,755**	**4.2%**	**3,325,461**	**6.1%**
Support Services (Direct & Indirect)	2,597,346	2,311,955	-11.0%	2,241,875	-3.0%	2,434,106	8.6%	2,376,459	-2.4%
Building Fund- Metro Center	0	124,258	NA	0	-100.0%	0	NA	0	NA
Building Fund- Metro Regional Headquarters	194,199	341,156	75.7%	311,115	-8.8%	328,578	5.6%	458,262	39.5%
Insurance Fund & Workers Comp.	132,894	83,069	-37.5%	74,454	-10.4%	0	-100.0%	99,048	NA
Transportation Fund	324,125	346,952	7.0%	355,063	2.3%	357,071	0.6%	366,147	2.5%
Planning & Development Fund	0	0	NA	0	NA		NA	0	NA
Environmental Insurance	475,000	0	-100.0%	0	NA		NA	0	NA
Smith/Bybee Lakes Fund	18,700	24,601	31.6%	24,995	1.6%	15,000	-40.0%	25,545	70.3%
Revenue	**(2,562,865)**	**(5,754,750)**	**124.5%**	**(5,088,949)**	**-11.6%**	**(3,416,037)**	**-32.9%**	**(3,357,810)**	**-1.7%**
Total Net Expenses	53,409,073	55,936,940	4.7%	56,045,711	0.2%	54,457,359	-2.8%	49,850,861	-8.5%
Minus Special Waste Net Revenue	0	0		0		0		330,735	
Net Required from Regional User Fee and Metro Tip Fee	**$53,409,073**	**$55,936,940**		**$56,045,711**		**$54,457,359**		**$49,520,126**	
Base Rate	68.75	68.34		68.34		68.34		64.49	
Excise Tax	4.81	5.12		5.12		5.12		4.84	
Base Rate + Excise Tax (Rounded or Adjusted)	73.25	73.45		73.45		73.45		69.33	
Fees For Other Agencies (Pass Throughs)	1.75	1.55		1.55		1.55		1.67	
Total Disposal Rate/ton	**$75.00**	**$75.00**		**$75.00**		**$75.00**		**$71.00**	
Special Waste Rate/ton	**0.00**	**0.00**	**0.0%**	**0.00**		**0.00**		**$5.00**	
Excise Tax Rate	7.00%	7.50%	7.1%	7.50%	0.0%	7.25%	-3.3%	7.50%	3.4%
Tonnage--Budget									
Regional	1,043,848	1,066,452	2.2%	1,047,348	-1.8%	1,081,489	3.3%	1,032,881	-4.5%
Metro	689,185	741,455	7.6%	749,291	1.1%	720,942	-3.8%	676,163	-6.2%
Special Waste	0	0	NA	0	NA	0	NA	71,108	NA
Disposal at St. Johns & Columbia Ridge	633,184	757,494	19.6%	779,505	2.9%	674,963	-13.4%	632,190	-6.3%
Tonnage--Actuals (Act+Est. for FY 1996-97)									
Regional	1,071,563	1,044,046	-2.6%	1,139,191	9.1%	1,150,768	1.0%	---	NA
Metro	746,527	746,340	0.0%	756,626	1.4%	729,916	-3.5%	---	NA
Disposal at St. Johns & Columbia Ridge	714,666	774,670	8.4%	732,693	-5.4%	648,183	-11.5%	---	NA
Tonnage (Percent Difference)									
Regional	2.7%	-2.1%	------	8.8%	------	6.4%	------		
Metro (includes St Johns)	8.3%	0.7%	------	1.0%	------	1.2%	------		
Disposal at St. Johns & Columbia Ridge	12.9%	2.3%	------	-6.0%	------	-4.0%	------		

BUDGET SUMMARY FY 1997-98

29-Jan-97	FY 1996-97 Adopted	FY 1996-97 Projected	Difference	FY 1997-98 Proposed	Difference
	A	B	B-A	C	C-A
RESOURCES					
Beginning Fund Balance					
St. Johns Closure Account	$6,793,071	$8,568,133	$1,775,062	$6,389,668	($403,403)
Renewal & Replacement Account	$3,170,730	$3,616,927	446,197	$3,961,028	790,298
Construction Account	$0	$0	0	$0	0
Debt Service & Reserve--Central	4,348,440	4,311,643	(36,797)	4,339,907	(8,533)
General Account--Rate Stabilization Reserve	2,972,233	2,981,591	9,358	3,145,363	173,130
Debt Service & Reserve--Fibre Based Fuel Project	0	0	0	0	0
General Account	12,188,153	16,047,300	**3,859,147**	20,266,140	8,077,987
Sub-Total	$29,472,627	$35,525,594	$6,052,967	$38,102,106	$8,629,479
Users Fees/Regional Transfer/Disposal	$55,145,068	$56,608,650	1,463,582	$49,247,823	($5,897,245)
Forest Grove Disposal/Transp Fees	$317,758	$376,305	58,547	$752,353	434,595
DEQ Fees/ Rehabilitation & Enhancement Fees	1,205,348	1,175,629	(29,719)	1,221,692	16,344
Sub-Total	$56,668,174	$58,160,584	$1,492,410	$51,221,868	($5,446,306)
Tire, Yard Debris, Household Haz/Refrigeration Chg	$181,004	$444,870	$263,866	$446,799	$265,795
Interest & Finance Charges	1,279,510	1,944,224	664,714	1,650,130	370,620
Pass Through Debt Service	350,000	350,000	0	350,000	0
Revenue Bond Proceeds	0	0	0	0	0
Miscellaneous (Franchise fees, salvage)	148,999	60,285	(88,714)	73,618	(75,381)
Other (reimbursements, fines)	829,228	524,480	(304,748)	86,000	(743,228)
Total Resources	$88,929,542	$97,010,038	$8,080,496	$91,930,521	$3,000,979

ATTACHMENT C

BUDGET SUMMARY 1997-98

29-Jan-97	FY 1996-97 Adopted	FY 1996-97 Projected	Difference	FY 1997-98 Proposed	Difference
	A	B	B-A	C	C-A
EXPENDITURES					
Personal Services					
Administration	$998,640	$998,640	0	$951,554	(47,086)
Budget & Finance	517,030	517,030	0	464,070	(52,960)
Operations	2,417,687	2,577,687	160,000	2,629,096	211,409
Engineering	911,444	961,444	50,000	920,748	9,305
Waste Reduction	1,205,919	1,205,919	0	1,186,221	(19,698)
Planning & Technical Services	0	0	0	0	0
Recycling Information & Education	0	0	0	0	0
Sub-Total	$6,050,720	$6,260,720	$210,000	$6,151,690	$100,970
Number of Positions (FTE)	109.05	109.05		104.10	(4.95)
EXPENDITURES					
Materials & Services					
Administration	$302,812	$302,812	0	$386,110	83,298
Budget & Finance	865,423	858,083	(7,340)	937,393	71,970
Operations	39,281,143	38,771,383	(509,760)	36,079,922	(3,201,221)
Engineering	706,951	614,051	(92,900)	1,162,414	455,463
Waste Reduction	2,267,219	2,067,219	(200,000)	2,012,023	(255,196)
Planning & Technical Services	0	0	0	0	0
Recycling Information & Education	0	0	0	0	0
Sub-Total	$43,423,548	$42,613,548	($810,000)	$40,577,862	($2,845,686)
General Account	1,034,534	534,534	(500,000)	3,008,867	1,974,333
St. Johns Landfill	2,525,763	2,525,763	0	4,328,900	1,803,137
Renewal & Replacement	414,000	414,000	0	508,900	94,900
Master Project Account (Composter Series I)	350,000	350,000	0	350,000	0
Debt Service Central	2,666,874	2,666,874	0	2,666,026	(848)
Transfers					
Support Services, Building Fund, Risk Management	$2,762,684	$2,762,684	0	$2,933,769	171,085
Planning Fund	$357,071	$357,071	0	366,147	9,076
Smith/Bybee Lakes Fund	$15,000	$15,000	0	25,545	10,545
Rehab & Enhancement	448,359	407,738	(40,621)	430,581	(17,778)
Sub-Total	$3,583,114	$3,542,493	($40,621)	$3,756,042	$172,928

BUDGET SUMMARY FY 1997-98

30-Jan-97	FY 1996-97 Adopted	FY 1996-97 Projected	Difference	FY 1997-98 Proposed	Difference
	A	B	B-A	C	C-A
Contingency & Unappropriated Fund Balance					
Contingency					
Operating Account	$4,073,113	$210,000	(3,863,113)	$2,529,975	(1,543,138)
St. Johns Closure	4,516,978	0	(4,516,978)	2,295,353	(2,221,625)
Renewal & Replacement	3,490,295	0	(3,490,295)	4,243,053	752,758
Capital Reserve	975,900	0	(975,900)	0	(975,900)
Unappropriated Fund Balance					
General Account--Working Capital	$6,718,095	$6,718,095	0	$6,296,887	(421,208)
Construction Account -- Engineering Projects	$0	$0	0	$0	0
St. Johns Closure	0	6,389,668	6,389,668	0	0
Renewal & Replacement	0	3,961,028	3,961,028	0	0
General Account--Capital Reserve	1,619,134	13,338,045	11,718,911	6,005,400	4,386,266
General Account--Rate Stabilization Reserve	3,135,708	3,145,363	9,655	4,867,903	1,732,195
Debt Service & Reserve-- Central	4,351,766	4,339,907	(11,859)	4,343,663	(8,103)
Sub-Total	$28,880,989	$38,102,106	$9,221,117	$30,582,234	$1,701,245
Total Expenditures	$88,929,542	$97,010,038	$8,080,496	$91,930,521	$3,000,979
	$0	($0)	($0)	$0	($0)

Adopted Budget History for the Regional Environmental Management Department
FY 1993-94 through FY 1997-98

	FY 1993-94	FY 1994-95	Percent	FY 1995-96	Percent	FY 1996-97	Percent	FY 1997-98 Proposed	Percent	Annualized Percent
RESOURCES										
BEGINNING FUND BALANCE										
St. Johns Closure	$13,031,671	$11,114,745	-14.7%	7,515,841	-32.4%	6,793,071	-9.6%	6,389,668	-5.9%	-16.3%
Renewal & Replacement	1,527,571	2,137,541	39.9%	2,729,055	27.7%	3,170,730	16.2%	3,961,028	24.9%	26.9%
Construction Account	130,000	0	-100.0%	0	NA	0	NA	0	NA	-100.0%
Reserve Account	2,842,218	2,912,948	2.5%	2,906,886	-0.2%	2,951,884	1.5%	2,940,025	-0.4%	0.8%
Rate Stabilization	0	0	NA	1,586,250	NA	2,972,233	87.4%	3,145,363	5.8%	40.8%
Metro Central Debt	1,377,439	1,469,033	6.6%	1,394,236	-5.1%	1,396,556	0.2%	1,399,882	0.2%	0.4%
General Account (Unrestricted)	6,556,438	8,997,687	37.2%	9,620,917	6.9%	12,188,153	26.7%	20,266,140	66.3%	32.6%
Total Fund Balance	**25,465,337**	**26,631,954**	**4.6%**	**25,753,185**	**-3.3%**	**29,472,627**	**14.4%**	**38,102,106**	**29.3%**	10.6%
FROM RATES										
User Fees	22,704,075	23,580,136	3.9%	23,343,194	-1.0%	24,022,814	2.9%	21,050,254	-12.4%	-1.9%
Disposal Fees	24,490,577	27,014,500	10.3%	27,287,508	1.0%	26,284,343	-3.7%	23,354,355	-11.1%	-1.2%
Disposal Fees - Forest Grove	0	2,294,912	NA	1,303,571	-43.2%	317,758	-75.6%	752,353	136.8%	-31.0%
Regional Transfers	5,800,631	4,970,201	-14.3%	5,018,507	1.0%	4,837,911	-3.6%	4,843,214	0.1%	-4.4%
DEQ Fees	861,482	865,606	0.5%	786,756	-9.1%	756,989	-3.8%	791,111	4.5%	-2.1%
Rehab & Enhancement Fees	425,623	454,845	6.9%	463,539	1.9%	448,359	-3.3%	430,581	-4.0%	0.3%
Tire, Yard Debris, Household Haz Waste, Refrigeration	378,405	278,899	-26.3%	213,401	-23.5%	181,004	-15.2%	370,799	104.9%	-0.5%
Total Materials & Services	**54,660,793**	**59,459,099**	**8.8%**	**58,416,476**	**-1.8%**	**56,849,178**	**-2.7%**	**51,592,667**	**-9.2%**	-1.4%
MISCELLANEOUS										
Interest & Finance Charges	1,800,000	838,015	-53.4%	1,018,130	21.5%	1,279,510	25.7%	1,650,130	29.0%	-2.1%
Fines & Forfeits	25,000	25,000	0.0%	5,000	-80.0%	5,000	0.0%	5,000	0.0%	-33.1%
Salvage Revenue	62,665	58,224	-7.1%	67,453	15.9%	92,714	37.4%	4,000	-95.7%	-49.7%
Pass Debt Service Receipts (Reidel)	933,013	350,000	-62.5%	350,000	0.0%	350,000	0.0%	350,000	0.0%	-21.7%
Revenue Bond Proceeds	1,919,419	1,919,419	0.0%	0	-100.0%	0	NA	0	NA	-100.0%
Trans. Direct Cost from Rehab & Enhan Fund	39,048	42,254	8.2%	43,134	2.1%	42,184	-2.2%	44,074	4.5%	3.1%
Trans. Direct Cost from Smith & Bybee Lake Fund	0	0	NA	0	NA	5,000	NA	15,000	200.0%	200.0%
Federal Grants - Operating	200,000	0	-100.0%	0	NA	0	NA	0	NA	-100.0%
Other Miscellaneous	222,186	153,742	-30.8%	167,159	8.7%	207,136	23.9%	91,544	-55.8%	-19.9%
Disposal Charges - Hazardous Waste CEG	0	632,400	NA	60,000	-90.5%	75,144	25.2%	76,000	1.1%	-50.7%
Reimbursements from City of Portland	330,026	439,898	33.3%	466,631	6.1%	551,049	18.1%	0	-100.0%	-100.0%
Total Miscellaneous	**5,531,357**	**4,458,952**	**-19.4%**	**2,177,507**	**-51.2%**	**2,607,737**	**19.8%**	**2,235,748**	**-14.3%**	**-20.3%**
GRAND TOTAL	**85,657,487**	**90,550,005**	**5.7%**	**86,347,168**	**-4.6%**	**88,929,542**	**3.0%**	**91,930,521**	**3.4%**	**1.8%**

ATTACHMENT D

Adopted Budget History for the Regional Environmental Management Department
FY 1993-94 through FY 1997-98

EXPENDITURES	FTE	FY 1993-94	Percent	FTE	FY 1994-95	Percent	FTE	FY 1995-96	Percent	FTE	FY 1996-97	Percent	FTE	FY 1997-98 Proposed	Percent	Annualized Percent
OPERATING - PERSONAL SERVICES																
Administration	10.50	$515,867	19.4%	10.50	$552,982	7.2%	19.15	$1,011,637	82.9%	19.15	$998,640	-1.3%	17.50	$951,554	-4.7%	16.5%
Budget & Finance	8.00	461,629	-1.7%	8.00	495,560	7.4%	8.00	507,609	2.4%	8.00	517,030	1.9%	7.00	464,070	-10.2%	0.1%
Environmental Services	47.15	2,087,430	36.1%	48.15	2,362,635	13.2%	48.90	2,331,478	-1.3%	48.90	2,417,687	3.7%	48.90	2,629,096	8.7%	5.9%
Engineering & Analysis	10.50	692,155	5.8%	10.50	723,405	4.5%	15.50	957,355	32.3%	14.00	911,444	-4.8%	13.10	920,748	1.0%	7.4%
Waste Reduction & Planning Services	9.00	527,975	-17.0%	9.00	557,059	5.5%	18.00	1,148,606	106.2%	19.00	1,205,919	5.0%	17.60	1,186,221	-1.6%	22.4%
Planning	11.50	516,622	171.3%	9.15	548,384	6.1%	0.00	0	-100.0%	0.00	0	NA	0.00	0	NA	-100.0%
Recycling Information Center	7.65	332,036	6.5%	7.65	377,608	13.7%	0.00	0	-100.0%	0.00	0	NA	0.00	0	NA	-100.0%
Total Personal Services	**104.30**	**5,133,714**	**21.4%**	**102.95**	**6,617,633**	**9.4%**	**109.65**	**6,966,686**	**6.0%**	**109.05**	**6,050,720**	**1.6%**	**104.10**	**6,151,690**	**1.7%**	**4.6%**
OPERATING - MATERIALS & SERVICES																
Administration		90,671	-3.0%		137,489	51.6%		241,952	76.0%		302,812	25.2%		386,110	27.5%	43.7%
Budget & Finance		983,548	-11.9%		1,072,255	9.0%		1,072,887	0.1%		865,423	-19.3%		937,393	8.3%	-1.2%
DEQ		798,063	-12.1%		843,620	5.7%		834,645	-1.1%		758,509	-9.1%		790,374	4.2%	-0.2%
Other		185,485	-11.1%		228,635	23.3%		238,242	4.2%		106,914	-55.1%		147,019	37.5%	-5.6%
Environmental Services		38,667,222	-3.2%		43,060,626	11.4%		42,196,426	-2.0%		39,281,143	-6.9%		36,079,922	-8.1%	-1.7%
Disposal Operations		5,059,114	-34.2%		5,421,745	7.2%		5,236,221	-3.4%		5,058,579	-3.4%		4,920,294	-2.7%	-0.7%
Disposal - Transportation		9,738,578	-10.3%		10,354,036	6.3%		10,759,108	3.9%		9,301,976	-13.5%		8,955,037	-3.7%	-2.1%
Disposal - Landfill		19,790,622	5.1%		21,818,774	10.2%		21,321,620	-2.3%		20,650,792	-3.1%		17,782,806	-13.9%	-2.6%
Disposal - Hazardous Waste		1,588,000	35.7%		1,893,400	19.2%		1,651,160	-12.8%		720,097	-56.4%		999,258	38.8%	-10.9%
Other		2,490,908	78.3%		3,572,671	43.4%		3,228,317	-9.6%		3,549,699	10.0%		3,422,527	-3.6%	8.3%
Engineering & Analysis		183,458	12.5%		224,751	22.5%		602,162	167.9%		706,951	17.4%		1,162,414	64.4%	58.7%
Waste Reduction & Planning Services		933,162	-53.0%		1,178,421	26.3%		1,960,906	66.4%		2,267,219	15.6%		2,012,023	-11.3%	21.2%
Payments to Other Agencies - Grants		533,000	-31.5%		590,000	10.7%		720,000	22.0%		944,000	31.1%		751,000	-20.4%	9.0%
Other		400,162	-66.8%		588,421	47.0%		1,240,906	110.9%		1,323,219	6.6%		1,261,023	-4.7%	33.2%
Planning		344,816	254.6%		377,033	9.3%		0	-100.0%		0	NA		0	NA	-100.0%
Recycling Information Center		245,240	5.4%		217,518	-11.3%		0	-100.0%		0	NA		0	NA	-100.0%
Total Materials & Services		**41,448,117**	**-5.0%**		**46,268,093**	**11.6%**		**46,074,333**	**-0.4%**		**43,423,648**	**-5.8%**		**40,677,862**	**-6.6%**	**-0.5%**
TOTAL OPERATING		**46,581,831**	**-2.7%**		**51,885,726**	**11.4%**		**52,031,018**	**0.3%**		**49,474,268**	**-4.9%**		**46,729,552**	**-5.5%**	**0.1%**
DEBT SERVICE ACCOUNT		2,890,523	4.9%		2,879,579	-0.4%		2,669,191	-7.3%		2,666,874	-0.1%		2,666,026	0.0%	-2.0%
LANDFILL CLOSURE		10,347,500	-36.2%		6,344,000	-38.7%		8,085,000	27.4%		2,525,763	-68.8%		4,328,900	71.4%	-19.6%
CONSTRUCTION ACCOUNT		1,780,000	63.3%		1,650,000	-7.3%		0	-100.0%		0	NA		0	NA	-100.0%
RENEWAL & REPLACEMENT		510,000	-5.6%		149,000	-70.8%		425,000	185.2%		414,000	-2.6%		508,900	22.9%	-0.1%
GENERAL ACCOUNT		440,610	-58.1%		661,670	50.2%		1,154,885	74.5%		1,034,534	-10.4%		3,008,867	190.8%	61.7%
MASTER PROJECT ACCOUNT		933,013	-67.1%		350,000	-62.5%		350,000	0.0%		350,000	0.0%		350,000	0.0%	-21.7%

Adopted Budget History for the Regional Environmental Management Department
FY 1993-94 through FY 1997-98

EXPENDITURES	FTE	FY 1993-94	Percent	FTE	FY 1994-95	Percent	FTE	FY 1995-96	Percent	FTE	FY 1996-97	Percent	FTE	FY 1997-98 Proposed	Percent	Annualized Percent
INTERFUND TRANSFERS																
Trans. Costs to Support Services Fund		2,597,346	-10.6%		2,311,955	-11.0%		2,241,875	-3.0%		2,434,106	8.6%		2,376,459	-2.4%	-2.2%
Trans. Indirect Costs to Building Fund		194,199	-16.3%		341,156	75.7%		311,115	-8.8%		328,578	5.6%		458,262	39.5%	23.9%
Trans. Indirect Costs to Insurance Fund-General		81,897	9.8%		52,489	-35.9%		45,703	-12.9%		0	-100.0%		63,556	NA	-6.1%
Trans. Indirect Costs to Insurance Fund-Workers' Comp		50,997	56.4%		30,580	-40.0%		28,751	-6.0%		0	-100.0%		35,492	NA	-8.7%
Trans. Resources to General Fund		0	NA		124,258	NA		0	-100.0%		0	NA		0	NA	-100.0%
Trans. Resources to Building Fund		0	-100.0%		0	NA		0	NA		0	NA		0	NA	NA
Loan Transfer to Building Management		0	NA		0	NA		0	NA		0	NA		0	NA	NA
Trans. Resources to Transportation & Planning Fund		324,125	16.6%		346,952	7.0%		355,063	2.3%		357,071	0.6%		366,147	2.5%	3.1%
Loan transfer to Transportation & Planning Fund		0	-100.0%		0	NA		0	NA		0	NA		0	NA	NA
Trans. Resources to Planning & Development Fund		0	NA		0	NA		0	NA		0	NA		0	NA	NA
Trans. Resources to Rehab. & Enhancement Fund		425,623	-3.5%		454,845	6.9%		463,539	1.9%		448,359	-3.3%		430,581	-4.0%	0.3%
Trans. Direct Costs to Insurance Fund-EIL		475,000	18.8%		0	-100.0%		0	NA		0	NA		0	NA	-100.0%
Trans. Direct Costs to Smith/Bybee Lakes Fund		18,700	24.3%		24,601	31.6%		24,995	1.6%		15,000	-40.0%		25,545	70.3%	8.1%
Total Interfund Transfers		**4,167,887**	**-13.0%**		**3,686,836**	**-11.5%**		**3,471,041**	**-6.9%**		**3,583,114**	**3.2%**		**3,756,042**	**4.8%**	**-2.6%**
CONTINGENCY																
Operating Account - Contingency Unrestricted		2,233,000	-0.01%		3,654,234	63.6%		3,704,234	1.4%		4,073,113	10.0%		2,529,975	-37.9%	3.2%
Landfill Closure		2,000,000	0.0%		2,000,000	0.0%		1,000,000	-50.0%		4,516,978	351.7%		2,295,353	-49.2%	3.5%
Renewal & Replacement		1,794,571	15.2%		2,637,521	47.0%		3,035,820	15.1%		3,490,295	15.0%		4,243,053	21.6%	24.0%
General Account - Capital Contingency		0	NA		0	NA		0	NA		975,900	NA		0	-100.0%	-100.0%
Total Contigency		**6,027,571**	**4.1%**		**8,291,756**	**37.6%**		**7,740,054**	**-6.7%**		**13,056,286**	**68.7%**		**9,068,381**	**-30.6%**	**10.8%**
UNAPPROPRIATED FUND BALANCE																
Fund Balance - Debt Service Account		1,513,081	9.8%		1,528,946	1.0%		1,396,556	-8.7%		1,399,882	0.2%		1,403,638	0.3%	-1.9%
Fund Balance - Landfill Closure		2,864,171	-23.4%		4,711,845	64.5%		315,561	-93.3%		0	-100.0%		0	NA	-100.0%
Fund Balance - General Account-Working Capital		4,489,663	NA		3,728,281	-17.0%		2,880,046	-22.8%		6,718,095	133.3%		6,296,887	-6.3%	8.8%
Fund Balance - Rate Stabilization Reserve Account		0	NA		1,500,000	NA		2,921,930	94.8%		3,135,708	7.3%		4,867,903	55.2%	48.1%
Fund Balance - Renewal & Replacement		0	NA		0	NA		0	NA		0	NA		0	NA	NA
Fund Balance - Capital Reserve		0	NA		0	NA		0	NA		1,619,134	NA		6,005,400	270.9%	270.9%
Fund Balance - Reserve Account - Debt Service		3,111,637	12.5%		3,182,367	2.3%		2,906,886	-8.7%		2,951,884	1.5%		2,940,025	-0.4%	-1.4%
Total Unappropriated Fund Balance		**11,978,552**	**51.9%**		**14,651,441**	**22.3%**		**10,420,979**	**-28.9%**		**15,824,703**	**51.9%**		**21,613,853**	**36.0%**	**16.8%**
GRAND TOTAL	**104.30**	**$86,657,487**	**-5.7%**	**102.95**	**$90,550,007**	**5.7%**	**109.55**	**$86,347,168**	**-4.6%**	**109.05**	**$88,929,542**	**3.0%**	**104.10**	**$91,930,521**	**3.4%**	**1.8%**

1/29/97

TONNAGE ANALYSIS

	Original FY 95-96	Actual FY 95-96	Percent Variation (from Original FY 95-96)	Original Budget FY 96-97	Revised 18-Oct-96 + Actuals (Jul-Nov) FY 96-97	Proposed Budget FY 97-98	Percent Variation (from Original FY 96-97)	Percent Variation Revised FY 96-97)
Regional Tonnage								
Metro Facilities	749,291	756,628	1.0%	720,942	729,916	676,163	-6.2%	-7.4%
Non- Metro Facilities	298,058	382,563	28.4%	360,547	420,852	356,718	-1.1%	-15.2%
Sub-Total	1,047,349	1,139,191		1,081,489	1,150,768	1,032,881		
Non- Metro Facilities- Industrial Waste						71,108		
Total Regional Tonnage	1,047,349	1,139,191	8.8%	1,081,489	1,150,768	1,103,989	2.1%	-4.1%

ATTACHMENT E

Program/Division Overview — Fiscal Year 1997-98

General Expenses/Transfers, Contingency and Unappropriated ATTACHMENT F

Responsibilities

This category reflects Metro's responsibility to maintain sufficient reserves to satisfy all bond sale obligations; meet St. Johns Landfill Closure Plan requirements; stabilize disposal rates and minimize the financial impact of tonnage fluctuations; provide adequate working capital, and, finally, to provide for future capital improvement needs. In addition, this program includes transfers to other funds for services provided by other Metro departments to the Regional Environmental Management Department.

Objectives

Transfers

The following transfers to other Departments will be made in FY 1997-98:

• Support Services - Indirect	$2,272,898
• Support Services - Direct	103,561
• Building Management Fund - Indirect	341,262
• Building Management Fund - Direct	117,000
• Risk Management Fund	99,048
• Metro's Transportation Department (Planning and Development Fund)	366,147
• Rehabilitation and Enhancement Fund	430,581
• Smith and Bybee Lakes Fund	25,545

Support Services transfers for direct costs includes $78,561 for construction management services, and $25,000 for Internet support.

The transfer to the Building Management Fund for direct costs provides building renovations for the new Metro Recycling Information location.

The transfer to the Planning & Development Fund is for: 1) Support and maintenance of the Regional Land Information System (RLIS); 2) geographic services and mapping from the Data Resource Center; and 3) personal services assistance with forecasting, surveys, and other economic and demographic needs.

Revenues from the $0.50 Rehabilitation & Enhancement Fee are transferred from the Solid Waste Revenue Fund to the Rehabilitation & Enhancement Fund. This fund accounts for revenues and expenditures for rehabilitation and enhancement fees.

Transfers to the Smith & Bybee Lakes Fund provide technical assistance to REM in integrating St. Johns Landfill into the Smith & Bybee Lakes natural area. Construction of a hard-surfaced trail for pedestrians and bicyclists on part of the perimeter of St. Johns Landfill will be funded through transfers this fiscal year.

Program/Division Overview — Fiscal Year 1997-98

REM CONTINGENCY AND RESERVE ACCOUNTS SUMMARY

Account	Purpose	Funding Level Basis	Budget FY 1997-98
Contingency:			
Operating	Tonnage/cost fluctuation during fiscal year. (unrestricted)	To cover a possible 10% increase in tonnage and a 5% increase in all other materials and services not related to tonnage.	$ 2,529,975
Renewal & Replacement	R&R of all existing assets, including Bond Ordinance requirements, St. Johns Landfill. (restricted)	Remaining balance and ongoing contributions. The amounts to be deposited annually are established every three years by an independent engineering company.	4,243,053
St. Johns Landfill Closure	Closure activities and post-closure liabilities only. (restricted)	Remaining balance No additional contributions.	2,295,353
		TOTAL CONTINGENCY:	$9,068,381
Unappropriated Ending Fund Balance:			
Reserve Acct. - Central	Bond requirement. (restricted)	To be at least equal to the largest amount of principal and interest in any one year over the life of the issue.	2,940,025
Debt Service - Central	Cash flow requirements for Debt Service. (restricted)	Principal and interest for the first six-months of the following fiscal year to be transferred to the trustee.	1,403,638
Working Capital	To meet cash flow needs. (unrestricted)	45 days of operating expenses.	6,296,887
Rate Stabilization Fund	To minimize fluctuations in what otherwise might be required in disposal rates. (restricted) Year-to-year fluctuations Long-term (3-5 yr) fluctuations	The ability to cover (combined with the Operating Contingency) a net 5% loss of revenue for a two-year period, and funding levels to absorb estimated cost increases due to inflation for 3-5 years.	4,867,903
Capital Reserve	Acquisition of new assets established in the CIP, and other projects. (unrestricted)	Estimated costs as established in the Capital Improvement Plan (CIP) and other projects.	6,005,400
		TOTAL UNAPPROPRIATED ENDING FUND BALANCE:	$21,513,853
		TOTAL:	**$30,582,234**

Recommendations from an independent financial consulting firm (Financial Solutions Group, Inc., Redmond, WA) were used as the basis for establishing proposed funding levels for various accounts.

General Account, Rate Stabilization Reserve. This account was established in FY 1994-95 to provide rate stability over multiple years. Given increased volatility in the solid waste industry (flow control challenges, continued growth in material recovery facilities, etc.), REM believes it prudent to set aside sufficient reserves to:

1) Cover a 10% decline in tonnage, which corresponds to a 5% net loss of revenue for a two-year period when combined with Operating Contingency. REM expects to receive $50,469,515 from rates in FY 1997-98. A 5% net loss of revenue for a two-year period equals $5, 046,952. After subtracting the amount of $2,529,975 in the Operating Contingency, this results in $2,516,977 in the Rate Stabilization for this purpose.

2) Provide sufficient funding to help offset estimated contract cost increases that are directly tied to the Consumer Price Index for three to five years ($2,350,926). Based on REM tonnage projections, an estimated annual consumer price index of 3% and current spending patterns, the amount proposed should allow for a stable rate at the FY 1997-98 level for three to five years. Calculation of the CPI-based portion of the Rate Stabilization Reserve is shown below.

REM's cost structure is highly dependent on a number of service contracts that account for two-thirds of total operating materials and services. These contracts are subject to annual CPI Price Adjustment. The effect of inflation on the four major contracts are shown in the following table:

EFFECT OF INFLATION ON MAJOR CONTRACT COSTS

Contract	FY 1997-98 Costs (in millions)	% of CPI Adjustment (based on 3% inflation)	FY 1998-99 Costs (in millions)
Disposal Services	$ 16.10	2.20	16.50
Transportation	9.00	2.25	9.20
Station Operations - Central	3.50	3.00	3.60
Station Operations - South	1.50	2.40	1.54
Total	$30.10		$30.84
Difference			$ 0.74

Assuming the same tonnage level as FY 1997-98, an annual increase of about $740,000 can be expected on the above contract costs due to CPI increases. The amount of $2,350,926 set aside in the Rate Stabilization fund for this purpose will cover major contract CPI increases for a period of three years, and 64% of the amount required for a five-year period.

General Account, Capital Reserve. Metro's long-range (5-year) capital project needs have recently been compiled in a Capital Improvement Plan (CIP). This plan represents the culmination of the agency's first comprehensive, long-range planning process for major capital assets. Long-range REM capital projects that are not funded through debt are placed in this account. This account includes **$755,400** for capital projects identified in the CIP from 1989-90 through 2001-2002, and **$5,250,000** for other long-range projects as described in the following:

OTHER PROJECTS: COST SUMMARY

	Rossman's Landfill	Killingsworth Fast Disposal	Newell Creek	Traffic Improvements	TOTAL
Operating Account Materials & Services (FY 96-97) Ttl. Engineering Evaluations	$ 0	$ 0	$ 50,000	$ 0	**$ 50,000**
Included in Operating Account Materials & Services (FY 97-98) Ttl. Engineering Evaluations	200,000	0	0	200,000	**400,000**
Included in Capital Reserve (FY 97-98)	2,000,000	2,000,000	500,000	750,000	5,250,000
Total Materials & Services and Capital Reserve	2,200,000	2,000,000	500,000	950,000	**5,650,000**
TOTAL PROJECT COSTS	**$ 2,200,000**	**$ 2,000,000**	**$ 550,000**	**$ 950,000**	**$ 5,700,000**

Program/Division Overview Fiscal Year 1997-98

OTHER PROJECTS: DESCRIPTION

Three environmental remediation projects are being recommended by REM as areas of concern to the region, in which Metro has a legitimate role in assisting both technically and financially. Two of the projects are closed landfills; the third is an extensive, unpermitted dump in an environmentally-sensitive area. In addition, REM is proposing a multi-jurisdiction project to improve the intersection that provides access to Metro South Station.

Rossman's Landfill

Rossman's Landfill is located in Clackamas County, adjacent to Metro South Station. The site consists of approximately 100 acres and is part of the End of the Oregon Trail. Rossman's Landfill was a general purpose landfill that received approximately 3 million tons of waste from Clackamas, Multnomah and Washington Counties from 1969 to 1982. The site is currently experiencing a renewal of gas production, which is causing concern. In addition, its site is causing groundwater contamination. The Closure Fund has a remaining balance of $271,000; however, yearly O&M expenditures have averaged over $200,000 per year. It is estimated that the Closure Fund will be out of money in 1998, with no immediate funding options. REM is proposing to fund a study of the site for approximately $200,000 to determine long-term gas and leachate problems. In addition, REM is proposing to contribute $2 million to the Closure Fund.

Killingsworth Fast Disposal (KFD)

KFD (or Nash Pit) is an old gravel pit that was purchased by Riedel Waste Systems, Inc. ("RWS") and used as a limited purpose landfill until 1989. The 24 acre site, located at NE 75th and Killingsworth, had a peak year in 1987 in which it received over 174,000 tons. RWS is now bankrupt, and DEQ is currently managing an escrow account for the post closure funds. Initially the account received $697,000 from Riedel; approximately $600,000 remains. The DEQ is concerned about offsite migration of methane gas and the failure of the existing gas collection system. Gas migration is a serious problem as residents are within 10 feet of the site boundaries. DEQ has retained an engineering firm, EMCON, to evaluate the problem and make recommendations by April 1997. DEQ estimates that it will cost over $500,000 to repair the gas collection system, which will leave virtually nothing for long-term O&M at the site. REM is recommending that $2 million be contributed to the Closure Fund.

Newell Creek

The Open Spaces program at Metro is considering purchasing several parcels of land in the Newell Creek area located in Clackamas County. Two properties under consideration have been preliminarily identified as having potential environmental problems due to the disposal of solid waste in the late 1950's and continuing to the early 1970's. Since the properties were used as an unpermitted dump, Open Spaces has requested both technical and financial assistance from REM in determining the extent of the problem. REM is proposing to contract with an environmental firm to determine if the groundwater has been contaminated by the waste and to make recommendations on possible site remediation. The cost of the study should not exceed $ 50,000 and an additional $0.5 million has been recommended for potential remediation.

Traffic Improvements

The intersection of Hwy 213 and Washington Street, which provides access to Metro South Station, is experiencing continual congestion problems such that traffic queues form all the way to the I-205 overpass. These long lines are comprised mainly of customers waiting to enter Metro South Transfer Station. REM is proposing a study in conjunction with ODOT, Clackamas County and Oregon City to review the entire transportation corridor surrounding Metro South. The traffic study has been estimated at $200,000, while Metro's share of the improvements are estimated to be $750,000.

Program/Division Overview — Fiscal Year 1997-98

Budget Summary

	FY 1997-98
Requirements:	
Interfund Transfers	$3,756,042
Contingency	9,068,381
Unappropriated Balance	21,513,853
Total Requirements:	$34,338,276
Full-Time Equivalent Staffing	
Regular Full Time FTE	0.00
Regular Part-Time FTE	0.00
Temporary/Seasonal FTE	0.00
Total FTE	0.00

ATTACHMENT G

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 96-2434 FOR THE PURPOSE OF APPROVING CHANGE ORDER NO. 7 TO THE WASTE DISPOSAL SERVICES CONTRACT

Date: December 3, 1996 Presented by: Jim Watkins

PROPOSED ACTION

Adopt Resolution No. 96-2434 authorizing the Executive *Officer to* execute Change Order No. 7 to the Waste Disposal Services Contract.

FACTUAL BACKGROUND AND ANALYSIS

The proposed Change Order (Amendment No. 7) contains ten items. These modifications alter the financial terms as set forth in the Waste Disposal Services Contract, as amended. The effects of the Change Order result in substantial savings of approximately $37 million over the original contract as amended, without any contract extensions.

The proposed Change Order No. 7 will:

1. Replace the fixed and variable rates to the Contractor with variable rates that decline as the tons disposed of increase (see table 1).

TABLE 1
METRO DISPOSAL RATES

Annual Tonnage			Price Per Ton
0	TO	550,000 TONS	$27.25
550,001	TO	592,500 TONS	10.00
592,501	TO	635,000 TONS	9.50
635,001	TO	677,500 TONS	9.00
677,501	TO	720,000 TONS	8.50
720,001	TO	762,500 TONS	8.00
ABOVE 762,501			7.50

2. Assume the annual CPI adjustment remains consistent with the terms of Amendment No. 4.

3. Eliminate the "Supplemental Price Adjustment" payment of $0.342 per ton to the Contractor.

4. Designate Metro as responsible party for all DEQ fees.

5. Require Contractor to waive any claims against Metro for tonnage guarantees from 1991.

6. Terminate the "Most Favorable Rate" provision of the original contract.

7. Allow Contractor to substitute corporate guarantees in lieu of Performance and Labor/Material Bonds.

8. Ratify Amendment No. 4 until the effective date of Change Order No. 7.

9. Commit Metro to continue "good faith efforts" to direct putrescible waste to the landfill.

10. Require Metro and the Contractor to legally defend Change Order No. 7.

ADDITIONAL INFORMATION

Two tonnage scenarios were used to evaluate the financial impacts of the proposed Change Order. The projected tonnage reflects Metro's current projections for transfer station tonnage that assumes the material recovery facilities currently proposed by private industry will decrease the tonnage going to Metro transfer stations. Tonnage forecasts for 1997 project 75,000 fewer tons will be disposed of at Metro transfer stations than in 1996. To analyze the sensitivity of tonnage versus savings, a second high tonnage forecast was analyzed that was 5% higher than the projected tonnage forecast. A 5% increase in tonnage results in over a 23% increase in savings from $37 million to $46 million when comparing Change Order No. 7 to the original contract as amended.

Staff also evaluated the average disposal costs for the original contract, Amendment No. 4 and Change Order No. 7 projected for 1997 assuming a 3% inflation adjustment and the projected tonnage forecast for tonnage. Included in the comparison is the recently negotiated rate for Seattle compared to their old rate.

1997 PER TON DISPOSAL RATE

ORIGINAL CONTRACT	$ 29.66
AMENDMENT NO. 4	$ 27.89
CHANGE ORDER NO. 7	$ 25.15
SEATTLE (old rate)	$ 28.86
SEATTLE (new rate)	$ 24.35

As shown in the above table Change Order No. 7 provides a reduction in 1997 of $2.74 per ton compared with Amendment No. 4 and $4.51 per ton when compared to the original contract without amendments. The rate reduction that Metro will receive compared to the original contract is the same reduction that staff estimated Seattle will receive in 1997.

On April 1, 1997, Seattle's rate will drop to $41.47 per ton for transport and disposal. Based on information provided by OWS in a letter written in 1991 and confirmed by Metro staff, Seattle's transportation costs were represented as $15.87 per ton. Staff analysis based on railroad cost of living increases and recently signed railroad contracts, estimated that Seattle's transportation costs will be $17.22 in 1997 leaving $24.35 per ton for disposal. Since Change Order No. 7 is tonnage sensitive, it would only take an additional 34,000 tons (5.2% increase) delivered to Metro transfer stations to lower the above rate for Change Order No. 7 from $25.15 to $24.35.

During the negotiations one of the primary goals of both parties was to provide savings equivalent to what Metro would potentially lose by terminating the Most Favorable Rate (MFR) agreement. Seattle's waste is only guaranteed until 2006 whereas Metro's contract terminates in 2009. In an attempt to evaluate the value of the MFR agreement staff assumed that OWS would successfully rebid the Seattle contract in 2006 and continue to send the waste to Columbia ridge with no rate reduction in 2006. The value of the MFR agreement for the projected tonnage forecast is $67 million and for the high tonnage forecast $69 million compared to the similar $63 million and $73 million respective savings offered by Change Order No. 7 when combined with the previous savings Metro currently enjoys from Amendment No. 4.

Considering all the variables that are involved in the analysis, such as tonnage, inflation rate, transportation costs, and the long term disposition of Seattle's waste, the savings offered by OWS clearly show that by agreeing to Amendment No. 7 they are attempting to compensate Metro for eliminating the MFR Agreement.

The specific items contained in the Change Order are more fully addressed below on an item by item basis.

Item #1 replaces the fixed and variable rate to the Contractor with a variable rate that declines as the number of tons increases. For the first 550,000 tons in each fiscal year the base rate will be $27.25 per ton which is a 64 cent reduction on the first 550,000 tons in comparison to Amendment No. 4. A rate of $10.00 per ton will be charged for the next 42,500 tons. Each additional 42,500 tons will be charged at a rate 50 cents lower than the previous rate with the minimum rate set at $7.50 per ton.

As a part of the negotiated settlement for eliminating the lump sum payment of $ 1,802,950 per year, Metro agreed to a one time lump sum payment of $1,025, 400 to be paid on January 10, 1997, or the effective date of this Amendment, which ever comes latter. Even with the lump sum payment in FY 1996-97 Metro still saves an additional $1.1 million compared to Amendment No. 4.

Metro receives credit for all tons delivered from July 1, 1996, to the effective date of the Change Order toward meeting the first 550,000 tons in FY 1996-97. Given current projections Metro would only pay the base rate on approximately 264,000 tons in the current

fiscal year and the remaining tons would be at the reduced rate if the Amendment is signed in December 1996.

Item #2 modifies the annual price adjustment formula. This change was to assure that the annual price adjustment under Change Order No. 7 would be the same as under Amendment No. 4 The item limits increases to 90% of the index less 1/2 percent for all payments. The financial impact is neutral compared to Amendment No. 4 except for changing the timing of future cost of living increases. OWS agreed to delay the next adjustment from April 1997 to July 1997 which offers a small savings to Metro but more importantly (from a budgeting perspective) coincides with Metro's fiscal year.

Item #3 eliminates the "Supplemental Price Adjustment" payment $0.342 per ton to the Contractor. Payments would have continued until 1999 totaling $721,232. The purpose of the payment was made to compensate the Contractor for Metro's failure to deliver waste guaranteed to the Contractor during the initial year (1990) of the Contract.

Item #4 eliminates an existing dispute of a change in law provision in the original contract over payments to the Contractor for DEQ fees enacted by legislation and adopted after execution of the contract.

Item #5 requires the Contractor to waive any claims for additional compensation for violation of the 90% tonnage guarantees from 1991 to the effective date of this Change Order. The Contractor had claimed that, as with 1990, Metro may have violated the guarantees contained in the contract for these years.

Item #6 terminates the Most Favored Rate Agreement. This provision was contained in Amendment No. 4. Metro also waives any claims against the Contractor for any alleged breach of the Most Favorable Rate Agreement.

Item #7 substitutes the Contractor's corporate guarantee for the performance and labor and materials bond requirements of Amendment No. 2, which eliminated the retainage requirements of the contract. The corporate guarantee will now take the place of both the bond and retainage guarantees for performance of the contract.

Item #8 ratifies Amendment No. 4 until the effective date of this Change Order at which time it is terminated

Item #9 commits Metro, in addition to the flow guarantees in the Original Agreement, to make good faith efforts to ensure that putrescible waste destined for a general purpose landfill shall be subject to Metro's authority to deliver waste to the Columbia Ridge Landfill. Good faith efforts are further defined as Metro continuing to comply with the flow control covenants benefiting bond holders and continuing to exercise the same general level of effort now used to enforce Metro's flow control and illegal waste disposal ordinances and regulations.

Item #10 requires both Metro and the Contractor to agree to defend the validity and enforceability of Change Order No. 7.

BUDGET IMPACT

Under the most probable tonnage scenarios, Metro would save approximately $37 million over the current contract considering the effects of Amendment No. 4. Savings are approximately $63 million over the terms of the original contract (i.e., without Amendment No. 4). For this fiscal year each month under Change Order No. 7 will result in savings of over $85,000. However the net savings for this fiscal year will be $1.1 million because of the $1 million lump sum payment that must be paid to OWS upon signing this Change Order.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 96-2434.

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ATTACHMENT H

RATE POLICY CHANGES APPROVED BY THE RATE REVIEW COMMITTEE

(January 1992 -- December 1996

A. Rate Methodology Cost Allocation.

1. Assign the costs of contingency to the Regional User Fee.

2. Assign the St. Johns Landfill operating costs to the Regional User Fee.

3. Remove any subsidy of yard debris rates by Metro Solid Waste disposal rates so long as the rate for yard debris remains lower and the incentive to separate yard debris is maintained.

4. Assign the recycling incentives (Recycling Avoided Costs) paid to the facility operators to the Regional User Fee.

5. Assign the costs for the Management Services Program of the Operations Division to the Regional User Fee.

6. Assign the costs of Renewal and Replacement Account contributions to the Metro User Fee. This change was recommended by the Black & Veatch Rate Report in June 1993.

7. Assign the costs for capital expenses related to the transfer stations to the Metro User Fee component. This change follows the rate setting philosophy of Black & Veatch.

B. Rate Stabilization Account

1. The Rate Review Committee supported the establishment of a Rate Stabilization Account within the Solid Waste Revenue Fund.

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SOLID WASTE BUDGETED ISSUES AND ACTUAL EVENTS

FY 1991-92	FY 1992-93	FY 1993-94	FY 1994-95	FY 1995-96	FY 199
	Planning Division transferred from the former Planning & Development Department	Operations Division restructured its programs to track expenditures by functions rather than by facility	Funding for Organic Waste Alternatives study	Funding for Organic Waste Alternatives study	Adoption of the 19 Regional Solid Wa Management Plan
	Separate budget for Recycling Information & Education Division. From FY 1992-93 Recycling Information & Education expenditures are part of the Solid Waste Department operations. Previously funded by transfers.	First year of the Intergovernmental agreement with the Multnomah County Sheriff's Department for flow control	Trans Industries Contract for the operation of Metro Central was modified effective October 1994.	Proposed budget reflects modified contract between Metro and Trans Industries.	
St. Johns Landfill ceased receiving putrescible waste on January 14, 1991	Budgeted full year of operation of the Metro South H2W; six months' operation of Metro Central H2W. Includes contract for disposal of household hazardous waste.	Budgeted full-year operation of the Metro Central H2W	Budget reflects changes due to OWS Contract Amendment No. 4 for the full FY 1994-95.	June 1996 - Transfer station operation contracts scheduled to expire in October '96 extended to April 1997	Transfer station op contracts will be ex Feb '97 until Oct. due March 5, 1997
Composter commenced operations, April 1991	No disposal activities at St. Johns Landfill	Oregon Waste Systems (OWS) Contract Amendment No. 4 signed on March 16, 1994. Contract validity under legal dispute.	Budget reflects a $1/ton reduction in Metro's variable rate included in Amendment No. 4 for the full fiscal year. Reduction did not take place.	Budget reflects a $1 reduction in Metro's variable rate included in Amendment No. 4 for half the fiscal year. Reduction did not take place.	Department restruc Johns Landfill ope transferred from O Division (renamed Services) to Engin Recycling Informa into Administratio Program transferre Reduction.
St. Johns Landfill ceased receiving any waste that generated revenue on October 10, 1991	Only budgeted five months of operation for the Composter. Facility closed in January 1992.	Metro Central H2W opened to public, November 1993	Rate Stabilization Account created		
Metro South Household Hazardous Waste Facility (H2W) opened to the public, February 1992	DEQ expenditures transferred to Budget & Finance Division from Operations Division	From April 20, 1994, Metro began direct purchases of diesel fuel for the transport of solid waste to Columbia Ridge. Metro can buy diesel fuel exempt of federal excise tax. The per-load net payment that Metro pays to Jack Gray is reduced. Energy Recovery, Inc. (ERI) in operation.	Budget reflects new arrangement for diesel fuel. Willamette Resources, Inc. (WRI) in operation.	Continue direct purchase of diesel fuel	Two new MRF fa to be in operation
Disposal rate calculated, new ordinance written. Rate $68/ton. Regional User Fee: $13	Disposal rate calculated, new ordinance written. Rate $75/ton Regional User Fee: $19	Disposal Rate not calculated. Rate adopted as of FY 1992-93. Rate $75/ton. No change in the rate components.	Disposal rate calculated, new ordinance written. Rate $75/ton, but fee components changed. Regional User Fee: $17.50	Disposal rate not calculated. Rate $75/ton. No new ordinance. All rate components remain the same as FY 1994-95.	Disposal rate not c $75/ton. No new written. All rate c remain the same a

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ATTACHMENT J

METRO

REPORT ON

ANALYSIS OF RATE SETTING PRACTICES

JUNE 1993

BLACK & VEATCH
PROGRESS BY DESIGN

BLACK & VEATCH

6 Venture, Suite 315, Irvine, California 92718-3317, (714) 753-0500, Fax (714) 753-1252

June 4, 1993

Ms. Maria Roberts
Project Manager
Metropolitan Services District
Solid Waste Department
600 Northeast Grand Avenue
Portland, OR 97232

Dear Ms. Roberts:

In accordance with our agreement, we are hereby submitting our Report on Analysis of Rate Setting Practices for the Metropolitan Services District. The report presents the results of our review.

We want to thank you and the Metropolitan Services District staff who provided us with the extensive background information and data needed to prepare this report.

We appreciate the opportunity to serve the Metropolitan Services District in this matter. Please call us if you have any questions.

Very truly yours,

BLACK & VEATCH

Jacob Boomhouwer, P.E.
Western Regional Manager

Enclosure

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REPORT ON
ANALYSIS OF RATE SETTING PRACTICES

Introduction

Background

The Metropolitan Services District ("Metro") was created in 1978 as a regional governmental body under the Metropolitan Services District Act. Metro is governed by a thirteen member council elected by district and an executive officer elected at large. The executive officer is responsible for the day-to-day administration of Metro. Both the councilors and the executive officer serve four year terms.

The legislation which created Metro grants to Metro the authority for the regional aspects of solid waste disposal, liquid waste disposal, water supply, transportation planning, human services, parks and recreation, cultural facilities, libraries, correctional facilities, and correctional programs. Metro currently exercises its authority to manage solid waste disposal, to operate the Washington Park Zoo, to provide transportation planning, and to manage convention, trade and spectator facilities.

Metro's service territory, which consists of portions of Clackamas, Multnomah and Washington Counties, covers 260 square miles and includes a service population of over 1.2 million. Within its service territory, Metro controls the flow of solid waste and manages the disposal of over one million tons of waste each year. The Metro system includes St. Johns Landfill, two transfer stations, and long term agreements with Waste Management of Oregon (WMO) for disposal at the WMO's Columbia Ridge Landfill and with Jack Grey Transport, Inc. for hauling of solid waste from Metro facilities to the landfill. St. Johns, a general purpose landfill, was closed in 1991. Metro has accumulated $20 million to pay for closure and post-closure costs at St. Johns. Metro has contracted the operation of Metro Central and Metro South transfer stations and is currently planning the construction of a third facility to be located in Washington County. The majority of the non-recoverable waste generated within Metro's service territory is disposed in the Columbia Ridge Landfill located in Gilliam County near the city of Arlington. In addition to the Metro owned facilities, Metro also franchises a number of privately owned facilities to receive solid waste generated within the Metro service territory.

Metro solid waste operations and capital expenditures are financed through user fees, regional transfer charges, disposal fees, interest income, and miscellaneous operating income.

The projected revenue from user fees, regional transfer charges, and disposal fees for fiscal year 1992/93 is $56 million. An additional $4 million will be provided from interest income earned on invested fund balances and miscellaneous revenue sources such as fines and forfeits, sale of salvaged materials, grants, and rental income. Approximately 39 percent of total revenues are received from user fees, 10 percent from regional transfer charges, 44 percent from disposal fees, and 7 percent from interest income and miscellaneous revenues.

Purpose

This report presents the results of an examination of Metro's rate setting methodology. Included in this report is a discussion of cost allocation procedures and a presentation of the rate development alternatives which Black & Veatch believes will enhance Metro's ability to achieve its rate policy objectives.

Scope

The scope of this study is limited to an analysis of Metro's rate setting methodology for solid waste disposal service as expressed in Council Resolution No. 88-878, a review of available documents related to rates and costs, and an evaluation of rate development alternatives. Specifically, Black & Veatch was asked to investigate five principal areas:

- Rate Setting Methodology
- Cost Allocation Procedures
- Allocation of Credits and Rate Incentive Costs
- Evaluation of Rate Sensitivity to Changes in Tonnage
- Identification of Opportunities for Improvement
- Industry Practices

Although this report discusses rate development methodology, the study scope did not include the determination of costs of service or the development of rates.

Summary of Findings

Metro's rate setting methodology consists of three principal steps. First, an annual budget is prepared which identifies the costs of the programs which will be funded through solid waste user charges and fees. Second, forecasts of regional disposal tonnages with a breakdown of disposal tonnages by facility are developed. Third, the information developed during the first two steps is combined to develop solid waste rates. The rate structure used by Metro consists of four components, a Regional User Fee, a Metro User Fee, a Regional Transfer Charge, and a Transport and Disposal Fee. Costs of programs which provide a regional benefit are recovered through the Tier 1 Regional User Fee. This fee is assessed on all solid waste disposed in the region. The fixed costs associated with Metro facilities are recovered through the Tier 2 Metro User Fee. The variable operating costs of Metro facilities are recovered through a Regional Transfer Charge. The costs of solid waste transport and disposal are recovered through a Transport and Disposal Fee. The Tier 1 Regional User Fee is collected at Metro facilities and all franchised facilities. The Tier 2 Metro User Fee, the Regional Transfer Charge, and the Transport and Disposal Fee are collected only at Metro facilities.

The rate setting methodology used by Metro is generally adequate to accomplish its rate policy objectives and to support other policy objectives regarding the management of solid waste. Although the existing methodology is adequate for its intended purpose, opportunities for enhancing that methodology do exist. The following highlight our key findings.

- The cost allocation bases used in rate development are generally suitable.
- The disposal credit given to organizations, while not supported on a cost of service basis, is consistent with Metro policies supporting recycling.
- Nonprofit and for-profit recyclers benefit from Metro programs promoting recycling. These organizations do not pay any fees supporting these programs. On the basis of rate equity, recyclers should share in the costs of these programs. A System Management Fee which includes the costs of waste reduction, recycling information, and portion of planning and administration will provide a mechanism for cost sharing. The revenue generated by a System Management Fee should be credited to the Tier 1 rate to give proper recognition to the regional support of recycling.
- The contract operator of Metro Central currently receives an incentive payment equal to the avoided cost of transport and disposal for all materials recovered from the waste stream. Although Metro receives twenty percent (20%) of the revenues from the sale of recovered materials, under this arrangement the majority of the benefit of recycling is given to the contractor. Metro should consider negotiating

a sharing of the avoided cost when the contract is renewed in 1994.

- The rate model developed by Metro staff calculates cost based rates in accordance with Metro's policies for rate development. The model facilitates the analysis of alternative scenarios of costs and tonnage. The model does, however, contain a significant amount of budget detail. Metro should consider breaking the rate model into separate budget and rate calculation modules. Simplifying the model would make it easier to use and enhance error detection.
- The tonnage forecast is a critical element of the rate setting process. Recent forecasts have not produced the degree of accuracy required to ensure adequate revenues. Metro should continue its efforts to improve model accuracy.
- Metro should continue to include an allowance for contingency in its annual budget. The tonnage forecast is only accurate plus or minus three percent (+/-3%) at a ninety percent (90%) confidence level. Based on the Fiscal Year 1993/94 forecast, the potential net revenue loss if actual tonnage is three percent (3%) lower than the forecast amount is between $608,000 and $889,000.
- Metro should maintain working capital equal to about forty-five (45) days cash expenditures. Working capital is required to cover the lag between when service is provided and payment received, as well as the normal variations in revenue and expense estimates. Based on the proposed 1993/94 budget of $57.6 million, a working capital allowance of $6 million is appropriate.

Current Rate Practices

Overview

Metro has adjusted its solid waste rates from time to time to reflect changes in costs and levels of service provided. In 1982, Metro retained the engineering firm of CH_2M Hill to perform an analysis of costs and rates. At the time of the study, the St. Johns Landfill was the only Metro facility. By the time the next rate study was completed in 1983, Metro had begun construction of the Clackamas Transfer and Recycling Center, now know as Metro South. The 1983 study considered three rate options - a cost of service rate, a limited uniform rate, and a uniform rate. Based in part on the preference of commercial solid waste haulers, a uniform tonnage rate structure was adopted. A uniform rate was charged at all Metro facilities, although the rate at the Clackamas Transfer and Recycling Center also included a convenience charge of $1.49 per ton.

In 1984, the solid waste rate was broken into four components - a base rate, a user fee, a regional transfer fee, and a convenience charge. The base charge paid the costs of landfill operation. The regional transfer charge and the convenience charge paid the operating costs of the transfer station. The user fee paid the cost of solid waste programs not directly related to operation of any Metro facility.

In 1990, Metro modified its rate structure to its present form. The current rate structure includes four components. The cost of regional programs are recovered through a Regional User Fee (Tier 1) which is applied to all wastes collected within Metro's service territory. The Metro User Fee (Tier 2), which is collected only at Metro facilities, recovers the fixed costs of solid waste transfer and disposal. The Regional Transfer Charge, which is collected at Metro facilities, recovers the variable costs of transfer station operation. The final component of the rate structure is the Disposal Fee which recovers the costs of transport and disposal. The current rate structure eliminated the convenience charge included in the former rate structure. The convenience charge was intended to reflect the additional administrative costs associated with the direct hauling of solid waste to the landfill by the general public. In addition to the four components, the rate ordinance includes a number of other charges such as a special waste surcharge, a tire disposal rate, and litter control surcharge.

Prior to 1990, rates were adopted and implemented on a calendar year basis. Beginning in 1990, the rate cycle was modified to correspond to Metro's fiscal year. The alignment of the rate cycle and the fiscal year improved Metro's ability to coordinate its rate setting with its budgetary needs.

Table 1 shown below summarized Metro's rate history. The large increase in the disposal

rate which occurred in 1989 was the result of the need to generate revenues to fund the costs of closing the St. Johns Landfill.

TABLE 1
RATE HISTORY
($/Ton)

Year	Base Rate	User Fee	Regional Transfer Charge	Convenience Charge	Total
1980	9.73	-	-	-	9.73
1981	9.73	-	-	-	9.73
1982	10.41	-	-	-	10.41
1983	13.48	-	-	-	13.48
1984	13.48	-	-	1.49	14.97
1985	13.48	-	-	2.25	15.73
1986	14.38	-	-	3.00	17.38
1987	14.38	-	-	3.00	17.38
1988	10.75	3.20	2.75	3.00	19.70
1989	31.75	4.25	6.25	3.50	45.75
1990	30.75	4.25	6.25	3.50	44.75

Year	Tier 1 Regional User Fee	Tier 2 User Fee	Regional Transfer Charge	Transport And Disposal Fee	Total
1991	7.00	14.00	7.00	26.00	54.00
1992	13.00	8.50	10.50	34.75	66.75
1993	19.00	7.00	9.00	38.25	73.25

Revenue Issues

The principal source of revenue for Metro's Solid Waste Department is fees and charges for solid waste services. In addition to fees for service, Metro's Solid Waste Department also obtains revenues from miscellaneous sources related to operations and from the investment of available fund balances. The mix of revenue sources used by Metro has a significant impact on the type of rate structure required. It is also important to recognize that Metro's pricing policy is influenced by the fact that it provides wholesale service rather than retail service. It is Metro's customers who provide retail service to individual residential and commercial customers. Metro's pricing policies directly affect only its customers. How Metro's customers in turn charge their customers is beyond Metro's control.

Fixed and Variable Revenue. Utilities typically obtain a revenues from a mix of revenue sources. Some revenue sources tend to be relatively stable and independent of quantity of service provided, while other sources tend to vary directly with the quantity of service provided. Fixed revenues sources might include tax revenues, service charges, and interest income. Although those sources do not vary with the quantity of service provided, their revenues can still be highly variable depending upon tax rates, regional growth, interest rates, and other factors which utilities cannot control. Variable revenues by comparison are a function of the quantity of service provided and the rates charged for that service. Metro's existing disposal rates are examples of variable revenue sources.

Metro is engaged in an enterprise activity like many other utility and commercial enterprises. Its costs of providing solid waste services are comprised of fixed and variable cost components. At the present time, Metro's Solid Waste Department recovers most of its costs through its various fees and charges. It combines its fixed and variable costs in its pricing for the services provided. Consequently, Metro relies on a variable revenue source to recover both its fixed costs as well as its variable costs. Reliance on variable revenue sources for recovery of both fixed and variable costs of services reduces overall revenue stability.

In conducting this study, no policy statement was found which provides guidance regarding the levels of revenues which should be derived from fixed and variable revenue sources. Accordingly, the mix of fixed and variable revenues is considered to be a management decision to be made by the Council when adopting rates.

Revenue Stability. Reliance on fixed revenue sources is not the only means to obtain revenue stability. Revenue diversity, pricing, and maintenance of adequate reserves are other means to achieve revenue stability. While a particular revenue stream may be variable, using several revenue methods may reduce revenue variability. Adopting a System Management Fee can offset potential revenue losses from reduced waste volumes resulting from recycling programs.

Stability can also be obtained through a rate structure. A rate structure which incorporates a service charge as well as a volume charge may be more stable than a rate structure which only includes a volume charge. Finally, adequate reserves contribute to revenue stability by providing funds during periods of reduced revenue receipts.

Working Capital. In addition to providing sufficient revenues to meet the costs of operations, rates must also be adequate to fund working capital requirements. A working capital allowance is needed because of the lag between when service is provided and when revenues for that service are received. In addition, working capital provides a margin of safety for any variation between forecast revenue and expenses and actual results. Although working capital can be used to offset any deviations from forecast amounts, it should not be used to avoid rate adjustments.

Most utilities size their working capital allowance on thirty (30) to sixty (60) days of operation and maintenance expenses. An allowance based on forty-five (45) days of operation and maintenance expenses would be a reasonable allowance for Metro. Once established, the working capital fund should be replenished as soon as possible whenever the fund balance drops below a forty-five day allowance. The allowance may also need to be adjusted to reflect increases in annual budgets. Based on the proposed 1993/94 budget of $57.6 million, an allowance of $5.6 million is appropriate. The calculation of the allowance shown below excludes non-operating income, debt service payments, contributions to restricted funds, and intra-agency transfers.

Total Revenue Requirement	$57,605,386
Less:	
Non-operating Income	$3,230,193
Debt Service	$3,025,233
Renewal & Replacement Fund	$ 732,000
St. Johns Closure Account	$1,600,000
Intra-agency Transfers	$4,604,403
Net Revenue Requirement	$44,413,557
	360 days
Daily Revenue Requirement	$123,370/day
45 Days Allowance	$5,551,695

Rate Objectives

Over the years, Metro has adopted several resolutions which provide guidance for rate setting. Resolution No. 84-483 adopted by the Council on August 23, 1984 first established Metro's policies for rate development. Resolution No. 84-483 continued to serve as Metro's primary rate policy statement until the adoption of the Regional *Solid Waste Management* Plan (RSWMP) in 1988. Policy 11 of the Plan states, in part, Metro's rate policy is to achieve "stable, equitable and predictable solid waste system costs and rates." The key elements of Policy 11 are:

- Uniform regional rates which may be adjusted to recognize local conditions;
- Financial support for source separation programs and other waste reduction programs;
- Support for waste reduction programs shall be based on the legal, technical, and economic feasibility of those programs.

To accomplish the objectives of Policy 11, Metro's rate structure must incorporate a number of essential features. The rate structure must provide adequate, stable revenues. The revenues produced by the rates must be sufficient to meet all operating costs including debt service as well as any cash financed capital additions. The rate structure must promote equity among customer categories. Each group of customers should be charged in proportion to the service received. The rate structure must be easy to implement and administer. The basis of the rates must be understandable to the public and should not place any undue administrative burden or cost on Metro. The rate structure should promote the Oregon solid waste hierarchy by providing appropriate incentives to reuse, recycle, and reduce. Finally, the rate structure must be consistent with Metro policies.

Selecting and implementing a rate structure often requires the rate designer to evaluate the relative importance of each rate objective. The effect of implementing one objective may conflict with the intent of another objective. For example, rate equity may require a large number of customer classes to accurately reflect the service characteristics of different customer groups. A large number of classes, however, may create an administrative burden and result in higher costs to all classes. The rate designer must weigh the relative importance of rate equity to that of rate administration. The resulting rate structure may reflect a compromise between those two objectives as well as the other rate objectives.

The analysis of Metro's rate setting methodology will be based, in part, on the ability of Metro's existing rate structure to achieve its rate policy objectives.

Existing Rate Setting Methodology

Metro updates its solid waste rates each year. The rate development process is composed of three primary steps. The first step is the preparation of an annual budget. The

annual budget includes estimates of personnel costs, materials and supplies, contract services, capital outlays, debt service, and other cash requirements of the solid waste system. Concurrent with the budget preparation, Metro develops a forecast of solid waste tonnages for the next fiscal year. The forecast is developed using a econometric model which incorporates externally developed estimates of income, construction employment, and regional tipping fees. The regional forecast is disaggregated into forecasts of tonnage by facility. The budget information and the tonnage forecast are the inputs to a rate model which is used to developed the actual rates. Each element of the rate setting methodology is discussed more completely in the following paragraphs.

Annual Budget. Metro operates on a fiscal year basis which begins July 1. The budget process begins in November when the Finance and Management Information Department distributes the budget preparation schedule and issues a budget preparation manual. During November and December, each Metro department completes its five year financial plan and its budget detail for the next fiscal year. During January, the Finance and Management Information Department reviews the five year plans and the budget detail for accuracy, adherence to directives, policies, and procedures, and identifies any issues of concern. The Finance and Management Information Department meets with Metro departments as required to resolve any concerns. During February, Metro's executive officer completes a review. In March, the budget is submitted to the Council for its approval.

The budget for the Solid Waste Department is prepared in considerable detail. Prior to the 1993/94 Fiscal Year, each program and facility was shown separately. In the 1993/94 Fiscal Year Budget, all operating facilities have been combined into a single budget category. Since Metro's rates are set on a region wide basis, this loss of detail does not adversely affect rate development. Typically within each program, expenses are grouped into personal services and materials and services categories. Within each category, expenses are summarized by object code. The budget as currently prepared provides adequate detail for rate development and to support achieving Metro's rate objectives.

Tonnage Forecast. As previously discussed, Metro forecasts disposal tonnage using an econometric model. The model was developed by the Center for Urban Studies at Portland State University. The model produces a best linear unbiased prediction of per capita solid waste tonnages based on construction employment, manufacturing wages and earnings in constant dollars, and regional tipping fees in constant dollars. The per capital tonnage estimate was applied to regional population forecasts to develop estimates of total tonnage.

In 1991, the forecasted tonnage was significantly higher than the actual tonnage report by all facilities in the Metro service territory. Metro retained the Center for Urban Studies

to assess solid waste trends in the Portland metropolitan area and the statistical validity of the model. The Center concluded the national economic regression and the decline in construction activity were the principal causes of the decline in disposal tonnage. The Center also observed there were a number of discrete events occurring in 1991 such as the closing of the St. Johns Landfill which may have affected disposal tonnage. Although a significant portion of the difference between forecast and actual tonnage is not explained by the factors used in the model, the Center concluded the model was a reasonably accurate method of forecasting regional solid waste tonnage.

Metro staff has modified the model to replace the manufacturing income variable with a broader regional income variable. This new variable has a negative coefficient which implies per capita disposal tonnage decreases with regional income. The forecast equation has an R-squared value of seventy percent (70%) which indicates a relatively good statistical fit.

The tonnage forecast is a key element in rate development. The estimates of tonnage by facility are used in part to develop cost estimates for transfer station operation, transport, and disposal. The tonnage forecasts are also used as the basis for calculating unit costs for rate setting. Given its importance, the development of accurate tonnage forecasts is critical to the rate setting process. Metro should continue its efforts to improve the accuracy of the model forecasts.

Rate Model. The third key element of the rate setting process is the rate model. The rate model is part of an EXCEL spreadsheet which contains detailed budget information. The spreadsheet contains thirteen (13) separate work areas. The majority of the work areas combine or summarize budget information. The rate calculation allocates budgeted expenses to the four rate components. The allocated costs are summed and adjusted by crediting interest income, miscellaneous income, and other income and credits to determine the net costs to be recovered through rates. The net costs are divided by the tonnage forecast to calculate the unit cost for each rate component.

One of the key areas of the spreadsheet is the development of personal service expense. Merit increases and cost of living adjustments (COLA) are applied to the current salary or wage rate for each budgeted position to calculate the proposed personal service expense. The personal service expense calculation feeds into the budget detail work area. The majority of non-personal service expenses are inputs to the spreadsheet. The budget detail area feeds directly or indirectly into all other work area in the spreadsheet.

Although the spreadsheet is adequate for its intended purpose, it can be improved. An identification section should be added to the spreadsheet. An identification section which is typically placed in the upper left corner of the spreadsheet includes the name of the

spreadsheet, the software version used, the name of the author, the date created, the date last revised, and a brief description of the spreadsheet function(s). Most work areas in the spreadsheet do not have a title or description to identify the contents of the work area. Descriptive titles should be added. The column headings and line descriptions are generally adequate, however, some line descriptions are not appropriately placed. Line descriptions should be to the left of the cells described. There is no annotation or imbedded documentation in the spreadsheet to describe the calculations performed or to identify the source of the data used. Adding annotation would facilitate use of the spreadsheet by persons unfamiliar with its construction. The spreadsheet makes only limited use of range names. Range names make referencing easier by using a descriptive name such as "tonnage" rather cell address. Range names should be used where appropriate. Finally, the spreadsheet does not contain any macros. Macros automate spreadsheet operations. Macros should be written for routine spreadsheet operations such as printing, data entry, and rate calculation.

Evaluation of Rate Setting Methodology. In general, Metro's existing rate setting methodology is adequate and appropriate for accomplishing its policy objectives. Metro's rate structure composed of four components should result in equitable rates which will provide adequate, stable revenues.

The critical element in the rate setting process is the forecast of disposal tonnage which drives both budget preparation and rate calculation. The existing tonnage forecast model produces a best linear unbiased prediction of per capital solid waste tonnages. The model is not designed to predict structural changes in disposal patterns. In addition to an inability to predict changes in solid waste disposal patterns, the exogenous variables used by the model produce forecasts which tend to lag rather than lead non-structural changes in disposal behavior. Consequently, the existing model will perform poorly whenever disposal quantities stagnate or decline. Metro's on-going review of the forecast model may provide recommendations to improve the performance of the model.

The rate model used in the rate setting process is generally adequate, but could be improved. Enhancing the model and documenting its construction and operation would enhance its usefulness. The model should incorporate macro routines to permit quick analysis of alternative budgets, cost allocations, and rates.

Analysis of Cost Allocation Procedures

One of the principal functions performed by the rate model is the allocation of costs to the four rate components used in Metro's rate setting methodology. Currently, the costs of all programs which have a regional benefit are assigned to the Tier 1 rate component.

General administrative costs, engineering, waste reduction, planning, and recycling information and education are examples of programs whose costs are assigned to Tier 1. The fixed costs associated with waste processing, transport, and disposal are assigned to the Tier 2 rate component. These costs include debt service, the fixed cost portion of service contracts, and the personal services and material and services of scale house operations. The variable cost portion of contract services agreements for the operation of Metro Central and Metro South transfer stations are assigned to the Regional Transfer rate component. The variable portion of the contract services agreement for solid waste transport and disposal are assigned to the Transport and Disposal rate component.

The costs assigned to the Tier 2, Regional Transfer, and Transport and Disposal rates appear to be directly related to service provided. The Tier 1 fee includes the balance of all other costs. Many of the costs assigned to Tier 1 represent expenditures of an overhead nature which should be shared by both Metro and non-Metro users. Metro facilities also benefit from administration, budget and finance, planning and engineering and should be assigned some responsibility for those costs. Although all users in the region pay the Tier 1 fee, not all users receive the same proportionate benefit. From a cost of service perspective, a Tier 1 fee which includes all administrative costs is higher than can be cost justified, while the remaining fees and charges which bear no administrative cost burden are lower than can be cost justified. Consequently, the users of Metro facilities pay less than their true share of costs, while users of non-Metro facilities pay slightly more than their share of costs. Allocating a portion of administrative costs to all rate categories will improve rate equity. The shift in cost responsibility, however, is not on a one-to-one basis because of the difference in tonnage between Tier 1 and other rate components. The costs shifted from Tier 1 to other components spread over fewer units. As a result the increase in the Tier 2, Regional Transfer Station, and Transport and Disposal unit charges (i.e. rate per ton) must be larger than the corresponding reduction the unit charge for Tier 1. As previously discussed, rate administration sometimes requires balancing competing rate objectives. An improvement in rate equity such as in this case may occur at the expense of rate stability. Increases in the Tier 2 Fee, Regional Transfer Charge, and the Transport and Disposal Fee may cause disposal tonnages to shift from Metro to non-Metro facilities. A reduction in the tonnage processed by Metro facilities may necessitate increases for all rate categories. Collecting administrative costs through a Tier 1 fee which is assessed at all facilities in the region is inherently more stable than utilizing fees and charges assessed only at Metro facilities. Metro must determine if the benefits of rate stability may outweigh the potential benefits of improved rate equity.

Metro's rate methodology assigns the costs of the household hazardous waste facilities located at each transfer station to Tier 1. The program costs include personal services,

materials and services, and disposal. Although this service is provided only at Metro facilities, the program benefits are shared throughout the region. The regional benefits make including this program as a Tier 1 cost appropriate. The costs of the household hazardous waste program were formerly shown in the annual budget as a cost item associated with each transfer station. These costs are now shown in the budget as part of Environmental Services.

The contract services agreement for Metro Central Transfer Station include several incentive provisions. One provision is intended to promote recycling. Under this provision, the facility operator is paid Metro's avoided cost of transport and disposal for all materials recovered from the waste stream. Prior to the current budget the cost of the incentive was included as part of the costs of Transport and Disposal. The 1993/94 budget allocates that cost to Tier 1. Since extending the life of the Columbia Ridge Landfill is a regional benefit, the allocation of this cost to Tier 1 is appropriate. Another incentive provision is intended to optimize the load of the transport trailers. This cost is allocated to the Transport and Disposal rate component. Metro assigns the annual contributions to the Renewal and Replacement Account to Tier 1. The contributions are made in accordance with Metro's master bond ordinance. The moneys deposited in the Renewal and Replacement Account are only available to maintain the building, equipment and other physical facilities located at the transfer stations. The moneys placed in the Renewal and Replacement Account do not provide any regional benefit, consequently, a more appropriate allocation would be to assign that cost to Tier 2. This allocation would also be consistent with the allocation of debt service costs to Tier 2. Shifting the Renewal and Replacement Account from Tier 1 to Tier 2 would reduce Tier 1 approximately $0.69 per ton while increasing Tier 2 $1.04 per ton.

The costs of the St. Johns Landfill closure are allocated to Tier 1. Over its operating life St. Johns benefitted all disposers in the region. Since there is no site specific tonnage associated with closure costs, it is reasonable to allocate those costs to all disposers in the region.

The costs associated with inter-fund transfers are allocated to Tier 1. These costs include Metro support services such as accounting and data processing, building fund, workers compensation insurance, transportation fund, Smith/Bybee Lakes fund, and environmental insurance. The majority of these costs are of an overhead nature and benefit all classes of service. Metro should investigate allocating a portion of the responsibility for inter-fund transfers to all rate components. The potential rate impact of allocating these costs among all rates is a reduction of $3.01 per ton to the Tier 1 charge and an increase of $4.57 per ton to the fees and charges at Metro facilities. The issues of rate equity and rate stability previously discussed in conjunction with general administrative costs also affect the allocation of inter-fund transfers. Any shifting of the cost responsibility for inter-fund transfers from Tier 1 to other fees and charges may be at the expense of rate stability.

The final element in the allocation process is the allocation of revenue credits to rate components. The miscellaneous revenues are allocated to Tier 1 and Tier 2 based on an analysis of the revenue source. The revenues received from tire hauling and disposal and salvage on recycled materials are allocated to the transport and disposal rate component. Since costs of owning and operating material recovery facilities are allocated to Tier 2, the revenues derived from salvage materials should also be allocated to Tier 2. The interest income earned on invested funds is allocated to rate components based on the purpose of the funds. The income from funds related to Tier 1 are allocated to the Tier 1 rate component and so forth. The recycling credit given to non-profit recyclers is assigned to Tier 1. The recycling credit is the disposal cost of the non-recover fraction of materials processed by a number of non-profit agencies. The allocation of this cost to Tier 1 is consistent with the allocation of all other costs associated with recycling.

In general, the cost allocation process used by Metro appears reasonable and supported by analysis of the services provided which created the cost. There are a small number of specific costs whose allocation can be improved. Some costs such as general administrative costs and intra-agency transfers could be allocated to all rate components rather than only to Tier 1. Others such as the Renewal an Replacement Account payment could be allocated to Tier 2 rather than Tier 1. Although these changes are supported by cost of service principles, they may be inconsistent with Metro's rate objective of predictable rates. Metro must assess the relative importance of cost of service versus predictable rates.

Analysis of Credits and Incentives

Metro's existing rate structure exempts recyclers from the Tier 1 charge, provides disposal credits to non-profit organizations which recycle, and gives performance incentives to the contract operators of Metro facilities. The rate exemption, the credits, and performance incentives are intended to promote reuse and recycling.

The recycling credits provide disposal cost relief to qualified non-profit agencies which have accomplished a significant level of waste reduction. To be eligible for the credit an organization must (1) be classified as a nonprofit organization under Section 501(c)(3) of the Internal Revenue Service Code, (2) be registered as a nonprofit organization with the Oregon Corporation Commission, (3) submit an annual report to the Oregon Department of Justice, (4) not use a for-profit organization to perform the recycling activities, (5) rely on the sale of recycle goods as a primary revenue source, (6) obtain goods for recycling through curbside collection or staffed drop-off sites, (7) recycle a minimum of 250 tons per year (8) be a credit customer in good standing, (9) annually submit waste reduction data to Metro, and (10) use no portion of the Metro credit to support religious activities. The amount of recycling credit

depends on an agency's overall waste reduction level. The amount of credit is shown in Table 2.

TABLE 2
RECYCLING CREDIT

Reuse/Recycling Level	Allowed Credit
More than 70%	100%
65% to 70%	90%
60% to 65%	80%
55% to 60%	70%
50% to 55%	60%
Less than 50%	No Credit

The amount of credit given may be reduced if the total amount of credit to be given exceeds the amount included in Metro's annual budget. If the total credits exceed the amount budgeted, the credit is reduced proportionately for all organizations.

In addition to the disposal credit given to eligible nonprofit organizations, Metro exempts all recyclers from the Tier 1 charge. A portion of the Tier 1 charge fund the Waste Reduction Program and the Recycling Information and Education Program. Since both nonprofit and for-profit recyclers benefit from these programs, it is reasonable for recyclers to share in the cost of those programs. In determining an appropriate rate for recyclers, some administrative burden should be added to the costs of the programs which directly benefit recyclers.

A system management rate, like any new charge, is likely to be opposed by affected organizations and businesses. Despite the fact that a recycling charge will be an additional cost, this charge will be in the best interests of those paying the charge. A System Management Fee will ensure the programs promoting recycling continue. Also, since the System Management Fee will reduce the cost responsibility borne by other rate components, the disposal charge paid by recyclers will be lower than without a system management rate.

In developing an equitable rate, it should be noted that all users in the region served by Metro benefit from programs promoting recycling whether or not they directly participate in

any recycling activity. Consequently, the costs of waste reduction and recycling information programs should be shared between Tier 1 users and recyclers. A System Management Fee which recovers the costs of waste reduction, and a portion of planning and administration provides a mechanism for sharing costs. The fee presents a separate rate component to recover recycling costs from all users including recyclers. Table 3 illustrates the development of a System Management Fee. The application of the fee should be revenue neutral, i.e. it should provide no additional revenues to Metro. All revenues derived from the System Management Fee should be credited against the Tier 1 user fee. The costs assigned to the System Management Fee were formerly recovered through the Tier 1 user fee. Consequently, all regional users have been supporting recycling programs. Crediting the revenues generated by the System Management Fee against the Tier 1 rate will provide proper recognition of the recycling efforts of regional users.

The contract services agreements which Metro has negotiated for the operation of the Metro Central Transfer Station include several performance incentive provisions. The purpose of these incentives are to give the operators of those facilities an economic incentive to recover and recycle the maximum amount possible. The incentives are structured to be cost neutral. For every ton of solid waste the operator of the Metro Central facility is able to able to divert from the waste stream, Metro will pay the operator the avoided cost of transportation and disposal. The operator also receives an incentive for maximizing the load on the transport trailers.

Although the performance incentive incorporated into the service agreement is consistent with Metro policy, it affords all the benefits of recycling to the facility operator and none to the rate payers. A more equitable arrangement would include some sharing of benefits between Metro and the facility operator. The amount of the sharing would be negotiated whenever the contract is renewed. However, the amount of the system management rate would be a logical starting point to identify the amount of the benefit which should be given to Metro.

TABLE 3
EXAMPLE DEVELOPMENT OF A SYSTEM MANAGEMENT RATE

Administration		$ 617,817
Budget & Finance	$1,461,005	
Less DEQ Fees	$ 807,251	
Net Budget and Finance		$ 653,754
Planning		$ 945,011
Waste Reduction		$2,171,387
Recycling Information		$ 604,924
Total		$4,992,913
Tier 1 Tonnage	1,064,930[1]	
Recycling Tonnage	367,000[2]	
Total Tonnage		1,431,930
Unit Charge ($/Ton)		$3.50
Excise Tax (7%)		$0.25
Rate ($/Ton)		$3.75

[1]Mixed Waste Disposal Facilities
[2]Franchised Mixed Waste Processors and For Fee Recyclers

Analysis of Tonnage Sensitivity

The costs of solid waste processing, transport, and disposal are, in part, a function of solid waste tonnages. For the 1992/93 fiscal year, the variable cost of solid waste disposal is forecast to be $47.25 per ton. Of that amount, $9.00 per ton is for transfer station operations, $38.25 per ton for transport and disposal. The operating agreements for the Metro Central and Metro South transfer stations, the transport agreement, and the disposal agreement included payment provisions based on tonnage. In addition to its impact on costs, tonnage is a key determinate in rate setting. Metro's existing rate structure results in its

variable revenue equal to $75.00 per ton for solid wasted handled by Metro facilities and $19.00 per ton for solid waste handled by non-Metro facilities.

The prediction of future events is always difficult, especially for disposal tonnages which are affected by multiple factors. Metro's forecast model which is driven by three exogenous variables is dependent on the quality of the forecasts developed for those variables. Since both Metro's forecast model and the external forecasts driving Metro's model are based on linear predictions, the model yields only "normal" forecasts. It fails to predict changes in disposal behavior such as occurred in 1991. The Center for Urban Studies at Port land State's analysis of the variation which occurred in 1991, concluded that only a portion of the variation which occurred was the result of variations in the forecasts of the exogenous variables. A significant portion of the variation observed in the tonnage forecast was caused by unknown factors.

At its best, Metro's tonnage forecast model is only accurate to plus or minus three percent (+/- 3%) at a ninety percent *(90%)* confidence level. This level of accuracy indicates only nine times of ten when the actual tonnage will be within plus or minus three percent of the forecast tonnage. Although Metro incurs additional costs when actual tonnage exceeds forecast tonnage, it also receives additional revenues. Metro's variable operating cost of is composed of transfer station operation costs of $9.00 per ton and transport and disposal costs of $38.25 per ton. Metro's unit revenue is $75.00 per ton. When actual tonnage is less than forecast tonnage, Metro saves the variable cost of transfer station operation[1], transport, and disposal. The costs saved, however, do not offset the potential revenue loss. Based on 1992/93 tonnage forecast, a three percent (3%) reduction in tonnage would equate to 32,045 tons. The calculation shown below presents the affect on costs and revenues if the reduced tonnage was shared proportionately between Metro and non-Metro facilities. The net loss in revenues is $798,905.

	Metro Facilities			Non-Metro Facilities		
	Tons	Unit Cost /Revenue	Amount	Tons	Unit Cost /Revenue	Amount
Cost	21,718	47.25	1,026,158	10,327	0.00	0
Revenue	21,718	75.00	1,628,850	10,327	19.00	196,213
Net			-602,692			-196,213

[1]Because of the "put or pay" provision in the existing contracts for transfer station operation, Metro does not avoid transfer station operating costs when the tonnage is less than the contract minimum. The true variable cost savings would be $38.25 per ton.

If the entire tonnage reduction were assumed to occur at Metro facilities, the resulting revenue loss would be $889,249 as shown in the following calculation.

	Metro Facilities			Non-Metro Facilities		
	Tons	Unit Cost /Revenue	Amount	Tons	Unit Cost /Revenue	Amount
Cost	32,045	47.25	1,514,126	0	0.00	0
Revenue	32,045	75.00	2,403,375	0	19.00	0
Net			-889,249			0

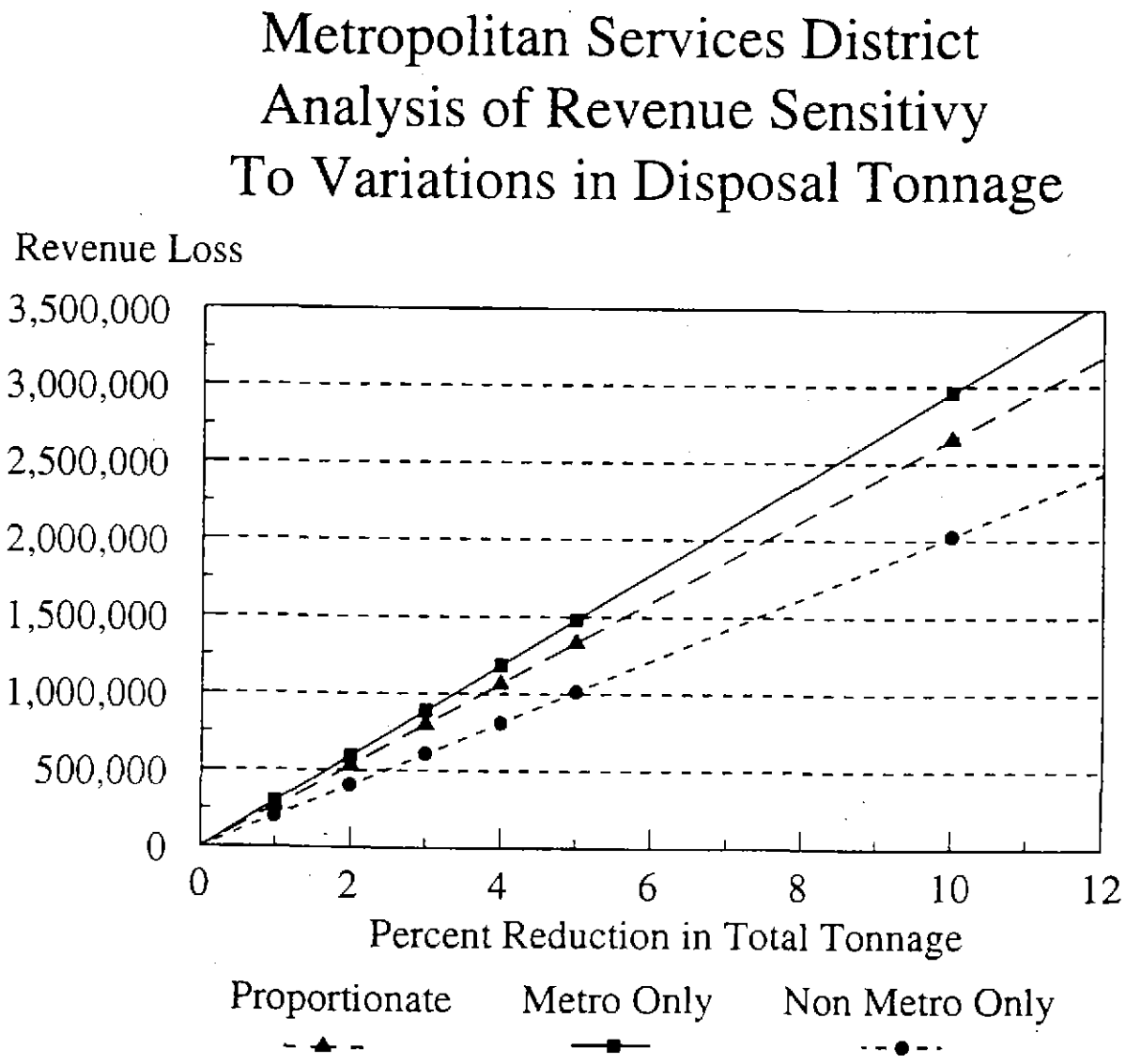
If the entire tonnage reduction were assumed to occur at non-Metro facilities, the resulting revenue loss would be $608,847 as shown in the calculation below.

	Metro Facilities			Non-Metro Facilities		
	Tons	Unit Cost /Revenue	Amount	Tons	Unit Cost /Revenue	Amount
Cost	0	47.25	0	32,045	0.00	0
Revenue	0	75.00	0	32,045	19.00	608,855
Net			0			-608,855

Within the prediction limits of Metro's forecast model, the potential net revenue loss is in the range of $600,000 to $900,000. To ensure revenue sufficiency, Metro's rate calculation should include a contingency allowance at least equal to that amount. Additional contingency funds may be required based on the normal variation in expense estimates.

Figure 1 shown on the following page illustrates the potential impact on Metro revenues of reductions in tonnage under the three scenarios previously described. A reduction in tonnage from zero to twelve percent (12%) is shown on the X-axis. The potential revenue loss is shown on the Y-axis. The solid line represents the revenue loss if all of the tonnage reduction occurs at Metro facilities. The dashed line reflects the revenue loss if seventy percent (70%) of the tonnage reduction occurs at Metro facilities. The dotted line reflects the revenue loss if none of the tonnage reduction occurs at Metro facilities. Because of the

loss of Tier 1 revenues with no reduction in costs, the potential revenue loss under the third scenario which assumes no tonnage reduction at Metro facilities is also as great as under the other two scenarios. Figure 1 clearly demonstrates the critical importance in rate setting of an accurate tonnage forecast.



Survey of Rate Practices

General

Until recently, governmental solid waste activities were funded almost exclusively by general tax revenues. Although general fund tax revenues continue to be used by a significant number of jurisdictions, user charges and fees are becoming a common method of funding solid waste activities. Charges and fees are used to pay the costs of solid waste collection and disposal and the costs of curbside recycling programs. The charges and fees applicable to residential service are typically a flat monthly charge or a flat charge per can. A few jurisdictions have implemented or are testing variable can rates and volume rates (i.e. a charge per pound). The charges and fees applicable to non-residential service are typically based on container size and collection frequency. Incentives to promote source separation and source reduction have also been incorporated into rate structures. As user charges and fee become the most common method of funding solid waste activities, new rate structures will be developed and implemented to provide better price signals to consumers to promote the efficient use of solid waste facilities.

Unlike water, wastewater, electric, and natural gas industries, the solid waste industry does not have an organization which promotes a standard rate development methodology. Within the other utility industries, one or more organizations have assumed responsibility for promoting standard methods for rate development.

The American Water Works Association (AWWA) has provided leadership in the water industry on cost of service analysis methodology and rate design since the 1950's. The AWWA has published several manuals on development of revenue requirements, rate design, and alternative rate structures. The Water Environment Federation (WEF) has provided similar leadership in the wastewater industry. The rate practices followed by wastewater utilities have been significantly influenced by the U. S. Environmental Protection Agency's (USEPA) regulations on user charge systems. These regulations described the rate methodology to be used by federal grant recipients. The American Public Power Association (APPA) has provided guidance on cost of service analysis and rate design for electric utilities. The Federal Energy Regulatory Commission (FERC) has developed rate application guidelines which must be followed by all rate applicants subject to its jurisdiction. These guidelines are also used by most state regulatory commissions in state rate cases. The American Gas Association (AGA) has published a manual on gas rate fundamentals which provides a recommended methodology for the development of rates for natural gas. The natural gas industry is regulated by the FERC and state regulatory commissions and is subject

to rate application guidelines similar to those applicable to the electric industry.

The following sections describe the rate practices generally followed by other utility types. Where appropriate, the applicability of the recommended methods to the solid waste industry is identified and discussed.

Water Utilities

The rate methodology commonly used by water utilities is described in Water Rates, AWWA Manual M1. This manual is supplemented by several additional manuals which address specific rate issues. These manuals include Water Rates and Related Charges - M26, Revenue Requirements - M35, Alternative Rates - M34, and Water Utility Capital Financing - M29. The manuals together with regulatory commission rules provide the foundation for rate development in the water industry.

Water rates are typically developed on either a "cash" or "utility" basis. The cash basis which includes all cash requirements of the utility is the basis used by most publicly owned water utilities. The revenue requirements to be recovered through rates include operation and maintenance expenses, cash financed additions, principal and interest payments on long term debt, and transfers to other funds, less miscellaneous operating revenues and non-operating income such as interest income. The transfers to other funds may include payment for services provided by general fund departments and/or payments in lieu of taxes. The utility basis of rate development excludes cash financed additions and principal payments, but includes depreciation expense and return on investment. Regulated water utilities are typically required to develop revenue requirements on a utility basis. Non-regulated municipal utilities which provide retail services outside their corporate boundary may also use this method to provide a cost basis for determining an inside/outside rate differential.

Water utilities incur costs in relation to service provided. Once the amount of costs to be recovered are determined, those costs must be recovered from customers in proportion to the level of service provided. The AWWA Manual M1 describes three generally accepted methodologies for allocating cost responsibility among customer groups. They are the commodity-demand method, the average and excess demand method, and the functional cost method.

The commodity-demand method allocates cost responsibility to four primary cost components: (1) commodity costs, (2) demand costs, (3) customer costs, and (4) direct fire protection. Commodity costs are those costs which tend to vary with the amount of water produced. Demand costs are those costs which tend to vary with the rate of use. Customer costs typically include the costs of meter reading and billing. Fire protection costs are associated with meeting fire flow requirements.

The average and excess demand method allocates cost responsibility based on (1) base

costs, (2) extra capacity costs, (3) customer costs, and (4) direct fire protection costs. The base costs are those costs required to meet the average rate of use. The extra capacity costs are those costs required to meet demands in excess of average use. Customer costs typically include meter reading and customer billing. Fire protection costs include the direct costs of meeting fire flow requirements.

The functional cost method groups costs into four functions: (1) production and transmission, (2) distribution, (3) customer costs, and (4) hydrants and connections. The functional cost method is not widely used because of the judgment required to separate costs.

Regardless of the method used, the purpose of the cost allocation methodology is to relate costs to the service provided. One of the principal advantages of utilizing a two step methodology, which allocates costs first to components and then to customer groups, is the ability to demonstrate that all groups are charged the same unit cost and the variation in cost responsibility is a result of differences in the level of service received.

Once cost responsibility is determined, a schedule of rates can be designed to recover those costs. There are more than a dozen common rate structures used by the water industry. The most common forms are a uniform volume charge, a declining block rate, an inverted block rate, and seasonal rate which may have either a uniform or a block rate structure. Although a flat rate is still used in some regions, its failure to promote conservation has caused it to be held in disfavor in many parts of the country. The selected rate structure is often a function of both cost and non-cost rate objectives. The key considerations in selecting a rate structure include the following:

- Revenue sufficiency
- Revenue stability
- Equity
- Legal precedents affecting determination of revenue requirements
- Administration and implementation
- Promote conservation

The rate methodology used by the water industry reflects the high capital and operating costs required to meet the peak instantaneous demands of customers. The objective of the cost allocation methodology is to allocate the cost meeting peak demands to customers whose service characteristics create the requirement. This rate setting process is more complex than is required by a solid waste utility whose service is not generally provided on a demand basis. The elements of the water rate methodology which can be applicable to solid waste rate setting are identification of basis or bases of service, developing unit cost of service, and cost allocation based on level of service received.

Wastewater Utilities

Twenty years ago, more than half of all wastewater utilities were funded completely from general tax revenues. The 1972 Amendments to the Water Pollution Control Act brought about significant changes in the methods used to develop charges for wastewater service. The 1972 Amendments included a provision which requires all wastewater utilities receiving federal grants to develop rates which equitably recover the costs of operation, maintenance, and replacement from all system users. The rate methodology used by most wastewater utilities is described in the WEF manual Financing and Charges for Wastewater Systems.

Like water utilities, the revenue requirements for wastewater utilities can be developed on either a "cash" or "utility" basis. The circumstances which may influence the use of a utility basis by a publicly owned system include regulatory requirements, agency reference, and provision of service to non-owners such as other agencies or retail service outside of corporate boundary.

Wastewater utilities incur costs in relation to the service provided. Cost responsibility can generally be defined by four primary cost components: (1) volume, (2) capacity, (3) strength, and (4) customer. The volume component relates costs which tend to vary in portion to the quantity of contributed wastewater. The capacity component relates to costs which tend to vary in proportion to the rate of flow. The strength component relates to costs which tend to vary in proportion to the type and concentration of pollutants in the wastewater. The customer cost component relates costs which tend to vary in proportion to the number of customers served.

The typical rate structure used by wastewater utilities is a uniform volume with a surcharge for wastewater strength in excess of normal domestic sewage. A common alternative to a uniform rate is to develop separate rates for each customer group reflecting the specific service characteristics of the group.

The rate methodology used by the wastewater industry is very similar to that used by the water industry. The considerations previously identified in selecting a water rate structure also apply when selecting a wastewater rate structure.

Electric Utilities

The rate methodology used by electric utilities is influenced by the requirements of federal and state regulatory commissions. This methodology reflects the complex nature of the service provided by electric utilities. Because electric utilities provide service at several voltage levels and with differing degrees of reliability, their cost allocation methods and rate design processes entail more detail than is required by other utility types. Recent unbundling of electric services have added to the complexity of rate setting in the electric industry.

The APPA Cost of Service for Public Power Systems manual describes a rate

methodology which despite its complexity is similar to the basic methodology used by other utility types. The rate setting process includes the determination of revenue requirements, the allocation of cost of service to functional components, the allocation of costs by functions to customer groups, and the design of rates. The cost allocation process typically allocates costs to four primary cost components: (1) demand, (2) energy, (3) customer, and (4) directly assigned costs. The demand cost component includes the costs which tend to vary with the peak rate of use. The energy cost component includes those costs which tend to vary with the quantity of energy produced. The customer cost component includes those costs which tend to vary with number of customers served. The directly assigned cost component includes the costs of facilities dedicated to serving specific customers.

Once costs are allocated to cost components, those costs can be assigned to customer groups based on their service requirements. Although the development of revenue requirements and determination of cost responsibility for electric utilities is very similar to the methodology used by other utility types, the rate design process is significantly different. Electric utilities use a number of different rate structures. The structure selected usually reflects the principal rate objectives. Electric utilities frequently utilize rate structures which include separate charges for demand, energy, and customer costs. The rates may also include a seasonal or time-of-use feature.

Electric rate administration is complicated by the desire of the utility to maintain rate continuity across a broad spectrum of rates. For example, a customer may initially be served under a commercial rate which includes only an energy charge and a customer charge. The energy charge includes both the demand and energy related costs. As the customer's load grows, the customer may migrate to a small general service rate. The small general service rate includes a sperate demand charge in addition to the energy and customer charge. The objective of rate continuity is to have no significant changes in a customer's total bill when a customer moves from one rate to another.

Natural Gas Utilities

The rate methodology commonly used in the natural gas industry is described in the AGA's Gas Rate Fundamentals. The methodology used in the natural gas industry is significantly influenced by the requirements of federal and state regulatory commissions.

The rate setting process includes the determination of revenue requirements, the allocation of cost of service to functional components, the allocation of costs by functions to customer groups, and the design of rates. The cost allocation process typically allocates costs to three primary cost components: (1) demand, (2) commodity, and (3) customer. The demand cost component includes the costs tend to vary with the peak rate of use. The commodity cost component includes those costs which tend to vary with the quantity of gas

produced or delivered. The customer cost components includes those costs which tend to vary with number of customers served.

Once costs are allocated to cost components, those costs can be assigned to customer groups based on their service requirements. The retail rate design may consist of a uniform volume charge or a block rate structure in addition to a customer charge. Large customers may be required to nominate specific volumes. The rate structure may include penalties for significant variations from the nominated volume. Wholesale rates and some retail rate contracts may also include a take or pay provision which requires the customer to pay based on the nominated volume whether or not that volume is delivered. A take or pay provision protects the utility from variations in customer use.

ATTACHMENT K

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January 11, 1996

Ms. Maria Roberts, Senior Management Analyst
METRO Regional Environmental Management Department
600 NE Grand Avenue
Portland, OR 97232

Subject: Reserve Fund Fiscal Policies

Dear Ms. Roberts:

FCS Group is pleased to provide this letter report summarizing our findings and recommendations resulting from our limited review of reserve levels for the Metro Regional Environmental Management Department (REM), related to provision of solid waste services. This report focuses on reserve levels unrelated to statutory or contractual requirements, which are typically accounted for as restricted funds and for which explicit standards are available. The scope of this review, conducted in a limited time frame, included a review of the FY 1996-97 Proposed Budget for REM, with focus on defining a set of fiscal policies to be used as a guide for determining appropriate reserve accounts in the Solid Waste Revenue Fund. Tasks undertaken included:

- Definition of reasonable standards of determining utility reserve levels.
- Assessment of proposed fund balances in light of those standards.
- Identification of general rules for managing reserve levels as they deviate from target levels.

In undertaking these tasks, we have conducted a limited review of fund financial statements, the proposed budget, and bond ordinance. We have not undertaken a more complete review of the financial structure or risks of the utility, or existing written or unwritten fiscal policies which might impact these findings. It should be clear that these findings are based on a relatively superficial examination of current conditions and are not definitive.

Background and Assumptions

Metro REM is an enterprise fund which provides solid waste services related to solid waste transfer, recycling and disposal, the cost of which are supported by user fees. A key assumption related to this review is that, as an enterprise, the Department should plan to rely solely on its own financial resources. When considering reserve levels, this is an extremely important point, because the availability of outside resources can substantially reduce the overall levels of reserves needed to protect against financial hardship. In this review we have assumed that no outside support would normally be provided.

In any enterprise, some level of reserves is necessary. In many small businesses, those reserves may not be apparent in the company accounts, but are present nonetheless in the form of loans or equity infusions by owners, or through reductions in owner salaries or work force. In larger corporations, limited cash reserves may be augmented by lines of credit and possibly by tight control and management of payables. Larger scale capital reserves may be made available through additional equity offerings.

In general, a municipal utility's access to these mechanisms is more limited. For example, the mission of the utility is typically to provide essential services, and the ability to curtail essential services is very limited. Also, there is no access to private or public equity capital or ability to curtail returns to owners as a response to financial hardship. The consequence of this is that even under financial duress, service must be continued and expenses must remain relatively fixed within a limited time frame. Therefore, the level of cash reserves required are typically larger than for comparable private businesses, and are defined by financial risk, with little opportunity for short-term adjustments to expenses or revenues.

Defining appropriate reserves has several elements: the types of reserves which are appropriate; the level of reserves; and the management of reserve levels. These are each discussed in the sections below.

Purpose of Reserves

Reserves are maintained by a utility, or any business, to provide financial stability. In some instances reserves are required contractually, such as with revenue bonds. In most others, reserves are determined to provide a prudent level of liquid reserves to meet a variety of financial needs or compensate for potential financial risks.

Adequate reserves cushion against poor performance. They also help to avoid overly conservative forecasts in budgets and planning. With minimal reserves, budgets must prudently anticipate poor financial performance. With reserves adequate to insulate against adverse performance, the budget and financial forecasts can anticipate normal performance, and reasonable deficiencies can be compensated for through use of reserves. Of course, some requirements, such as bond coverage, cannot be reserved against unless provided for in bond ordinance, as the coverage test is based on annual revenues and expenses, not counting reserves. As a consequence, some conservatism may remain appropriate, depending on financial circumstances.

A clear expectation consistent with this view of reserves, but one which is often overlooked, is that reserves need to be "exercised" to be useful. If kept static and not allowed to fluctuate as financial conditions change, reserves serve no purpose and are of no benefit to the enterprise or its ratepayers. Therefore, budget and financial performance must be evaluated with this flexibility in mind.

Finally, a fluctuation in reserves should not require immediate or drastic reaction to return to the target level. The purpose of reserves is to provide financial stability, meaning that responses to shortfalls or excesses should be measured and provide smooth transitions.

Types of Reserves

There are numerous types of reserves and fund balances maintained by Metro REM and by many utilities, for a variety of purposes. These include:

- Operating Reserves - Reserves such as working capital or operating contingency reserves are intended to cushion against short term fluctuations in cash (e.g. payroll cycles, collection cycles) and against longer term variations from forecasts (e.g. tonnage reductions or cost increases). The utility's reserves which currently serve these purposes include the Operating Account, the General Account, and the Rate Stabilization Reserve Account.

- Capital Reserves - Capital reserves can include funds reserved for planned improvements, funds reserved for planned or unplanned repair and replacements, and capital contingency reserves held for potential emergency capital needs. Examples of existing reserves in this category include the St. Johns Closure Account and the Renewal and Replacement Account.

- Bond Reserves - Bond reserves, as a generic term, can relate to several purposes: bond proceeds held until expenditure; bond reserve accounts required by bond ordinance; or funds accumulated for upcoming bond payments. Any accounts holding bond proceeds prior to use for capital projects would in reality be better described as capital reserves, since these are normally restricted to capital use. Examples of existing bond reserves include the Metro Central Reserve Account and the Metro Central Debt Service Account.

Appropriate Levels of Reserves

The appropriate level of reserves for any utility is specific to that utility's financial structure, potential financial risk, and policy regarding response to unanticipated financial performance, whether positive or negative. Also, different types of reserves have different bases for determining reserve levels.

1) Working Capital Reserve

The working capital reserve provides liquid reserves needed to deal with day to day cash requirements. Since the timing of cash receipts and expenses are independent, the working

capital reserve provides the continuity to allow regular payment of expenses. For most utilities, working capital is defined in terms of levels of expenses, and varies from 30 days to 75 days of operating expenses. The appropriate level would depend on the cyclical nature of payment and receipt cycles, and any seasonality of revenues. A 45 day working capital reserve is a typical rule of thumb and most commonly used, with highly volatile utilities (e.g. water, gas) which have seasonal loads typically higher. A more detailed determination of a working capital target for REM was beyond the scope of this review. Therefore, we *recommend a 45 day working capital standard* unless or until further analysis is undertaken.

The basis for defining working capital is subject to definition by the utility, but is typically limited to operating expenses. In the case of debt service, bond reserves provide the necessary stability and monthly transfers to repayment accounts protect against major cash outflows for principal and interest payments. Also, while budgeted capital transfers might be included, these are often viewed as discretionary, at least as to timing of such transfers. On the other hand, small scale capital outlays funded through operations are typically a cost of sustaining the business activity and might be appropriately included in the basis. Finally, ending balances and contingency would not be treated as expenses. Excluding the debt service and ending balances, the 1996-97 proposed budget of $88.8 million corresponds to a cost basis of $55.6 million would be used to determine working capital. *Using 45 days of working capital as a standard, a reserve of $6.9 million would be appropriate.*

2) Operating Contingency

The utility's Rate Stabilization Reserve Account currently contains nearly $3 million which could be used to weather revenue reductions or other adverse financial impacts, and thus serves the purpose of an operating contingency reserve. However, it's use is approved via the budgeting process, meaning that it is effectively available during the year after adverse financial performance.

It is also important to note that use of reserves from this account is unlikely to help the utility to satisfy its coverage requirements related to revenue bonds. Based on our limited review of bond ordinance 89-319, there is no reference to this fund or type of fund. This is not unexpected, since it was only recently created. However, its absence suggests that use of reserves from this fund does not qualify as utility revenue for purposes of coverage. Therefore, while the fund may mitigate cash needs during adverse financial performance, it will not benefit the utility's realization of bond coverage. As a result, depending on the anticipated coverage level built into the budget, the utility may still find the need for rate increases to meet its bond covenant obligations.

Addressing solely the cash consequences of financial underperformance, the appropriate level of the operating contingency reserve depends on the nature of the utility's co

structure, variability and predictability of revenues, and the anticipated duration of any deviations from expectations. These can be summarized as follows:

- The utility's cost structure is highly dependent on a number of service contracts which account for two-thirds of total expenses. While these include some fixed payments, the costs are largely dependent on tonnage handled. Therefore, significant reductions in tonnages would also result in reductions in expenses, perhaps in excess of 50% of the revenue loss.

- The utility's revenues, on the other hand, are highly variable, as they are proportional to tonnage. Even so, the primary issue is the volatility of tonnage, since a stable waste flow would result in little fluctuation in revenues. A history of projected versus actual tonnages would provide some indication of waste flow volatility. Examining the 1995-6 budget versus projected performance, it would appear that disposal fees will fall about 4% below budget. Similarly, the utility is planning for a 4% reduction in the 1996-97 proposed budget. It may be reasonable to assume that up to a 10% variation in tonnage, and therefore related revenues, could be expected. A more detailed examination of tonnage histories and forecasts would be needed to validate this estimate.

- The duration of events which produce financial risk determines the time horizon which needs to be planned for. As an example, water, gas and power utilities typically face weather-related financial risks the effect of which is relatively independent from year to year. In this solid waste utility, waste stream reductions due to reduction or diversion are more likely to reflect longer term trends. Therefore, it may be prudent to plan for two years of reduced financial expectations, in order to allow more gradual adaptation to the revised demand forecast.

The consequence of these considerations is that, absent further investigation, *we would recommend that the operating contingency be based on the ability to cover a 10% loss of revenues, offset by a 5% reduction in corresponding expenses, for a two year period. This results in a target level equal to 10% of annual revenues, or about $5.5 million.* The rate stabilization fund serves to cover the second year of such an event. Therefore, the operating contingency reserve within the general account should provide for one year of contingency reserve. In summary, the $5.5 million target would be equally divided between operating contingency and rate stabilization accounts.

3) Capital Replacement Reserves

The utility currently maintains a renewal and replacement account, with a current balance of about $3 million. This account, established by bond ordinance (89-319), is intended to provide for "payment of extraordinary repairs to or the replacement or renewal of capital assets of the System, for transfer to the Landfill Closure Account, and for payment of costs incurred for such extraordinary expenses peculiar to landfills..." (p. 45).

It would appear that the purpose and level of funding for this account is both specific and limited. For example, while the account now contains roughly $3 million, the accumulated depreciation of the utility's fixed assets is over $14 million. Clearly this account is not sufficient to fund the replacement of system assets, particularly when the replacement costs for those depreciated assets is taken into account.

In general, funding for replacement of assets ranges from none to full sinking fund contributions. A more reasonable range of funding levels would be related to retaining the net value of investments already made as a minimum, and providing the ability to replace those assets, as a maximum. From a rate equity perspective, a funding level within this range assures that current customers are paying at least the cost of assets being consumed, while no more than the cost to replace those same assets. The former equates to a replacement reserve balance of $14.5 million based on book depreciation, while the latter corresponds to a balance of about $23 million. We have used a rough approximation of replacement value for this latter value which was determined based on accounting records. The average asset age was approximated by dividing accumulated depreciation by annual depreciation, which resulted in an approximate 15 year average age. The original cost of assets is then escalated to current replacement cost using the Engineering News Record (ENR) Construction Cost Index as a basis. Currently, this results in replacement costs equal to 160% of the original cost if constructed 15 years ago. This approach relies on accounting measures for useful lives and depreciation rates, as well as assumed treatment of retirement or rehabilitation in a manner consistent with physical use and value. Further, we have developed very rough approximations of replacement value. A more detailed examination of current asset age, replacement cost and remaining useful lives would be appropriate to gain a fuller understanding of future replacement liabilities. Given the regular review of specific replacement requirements already undertaken to satisfy bond covenants, we would recommend that the next update be expanded to establish the total and depreciated replacement values for all utility assets.

It should be noted that while the above estimates reflect full funding of replacements through a reserve account, there are other financing resources which improve the utility's ability to fund replacements. For example, if replacements are to be funded 50% through debt, then the above target for replacement reserves would be reduced to a range from $7.2 to $11.5 million. The utility's current capital structure includes $30 million in debt related

to $45 million (original cost) in fixed assets. Using this 67% debt approach, the range of replacement reserves would be between $4.8 million and $7.6 million.

A specific recommendation depends on the utility's fiscal policies related to capital funding. However, *a recommendation consistent with the current capital structure would be to target one-third of replacement needs as a reasonable reserve level, with the expectation that the remaining two-thirds would be debt financed. This strategy would result in a target reserve level of $7.6 million,* and annual contributions based on one-third of replacement value depreciation. Currently, this would be one-third of roughly 160% of book depreciation, or about $520,000 per year.

It is clearly a policy, and not technical, decision as to an appropriate level of replacement reserves. However, complete reliance on debt for replacements (beyond existing requirements of ordinance), or failure to plan and provide for some equity funding of major replacement needs, would cause unnecessary and inappropriate rate volatility for future system users.

4) Capital Contingency Reserve

An additional reserve component which is not reflected in the above replacement reserve is an emergency reserve for capital needs. Clearly, the potential consequences of major catastrophic events, such as earthquakes, cannot and should not be reserved for, although insurance may be a viable option. However, some level of emergency funding may be appropriate to assure continued operation and service delivery. This reserve differs from the above in that it deals with unplanned and premature failure of a major asset, while the R&R account assumes full realization of the anticipated useful life of assets.

For many utilities, a capital contingency reserve target is set based on either a small percentage of fixed assets (e.g. 1% to 2%) or based on the potential cost of a major equipment failure, such as a compactor. Using the percentage approach, perhaps $500,000 to $1 million might be appropriate, while the latter approach would depend on the cost of replacing a major piece of equipment.

5) Consideration of Cumulative Reserve Requirements

When individual reserve components are examined, each has a valid purpose and basis. However, it may be possible that, when the aggregate or cumulative requirement is examined, there are offsets or overlaps which would allow the cumulative requirement to be reduced. In this case, examples would include:

- Interfund Transfers - Interfund transfers essentially appear as expenses in two cost centers: the department where the costs are incurred realizes both the

direct expense and an interfund revenue, and the department receiving and paying for the service realizes an interfund expense. Therefore, it is possible that working capital reserves are being provided in both locations for this expense, duplicating function, and a reduction in reserve requirements could be achieved. Note: By choosing not to reserve against interfund transfer expense, there is an direct implication that this is a discretionary payment which could be deferred if cash shortfalls occur. Excluding interfund transfers from the working capital basis would reduce the target level of working capital reserves.

- Capital Reserves - If capital replacement reserves are consistent with long-term replacement liabilities, and exceed nearer term requirements, then it may be appropriate to rely on those reserves to also meet the capital contingency requirement. This could eliminate or reduce the capital contingency reserve. In such case, the use of replacement funds for unplanned capital outlays should then result in an acceleration of payments in order to replenish the replacement reserve.

There may also be other examples of potential reductions as reserve components are consolidated, but a more detailed review of the reserve components and financial risks of the utility would be required to determine these. For this review, we have no basis for making recommendations for reducing cumulative reserves for these or other reasons. *Therefore, we have made no downward adjustments to the reserve targets to reflect these or other possible efficiencies.*

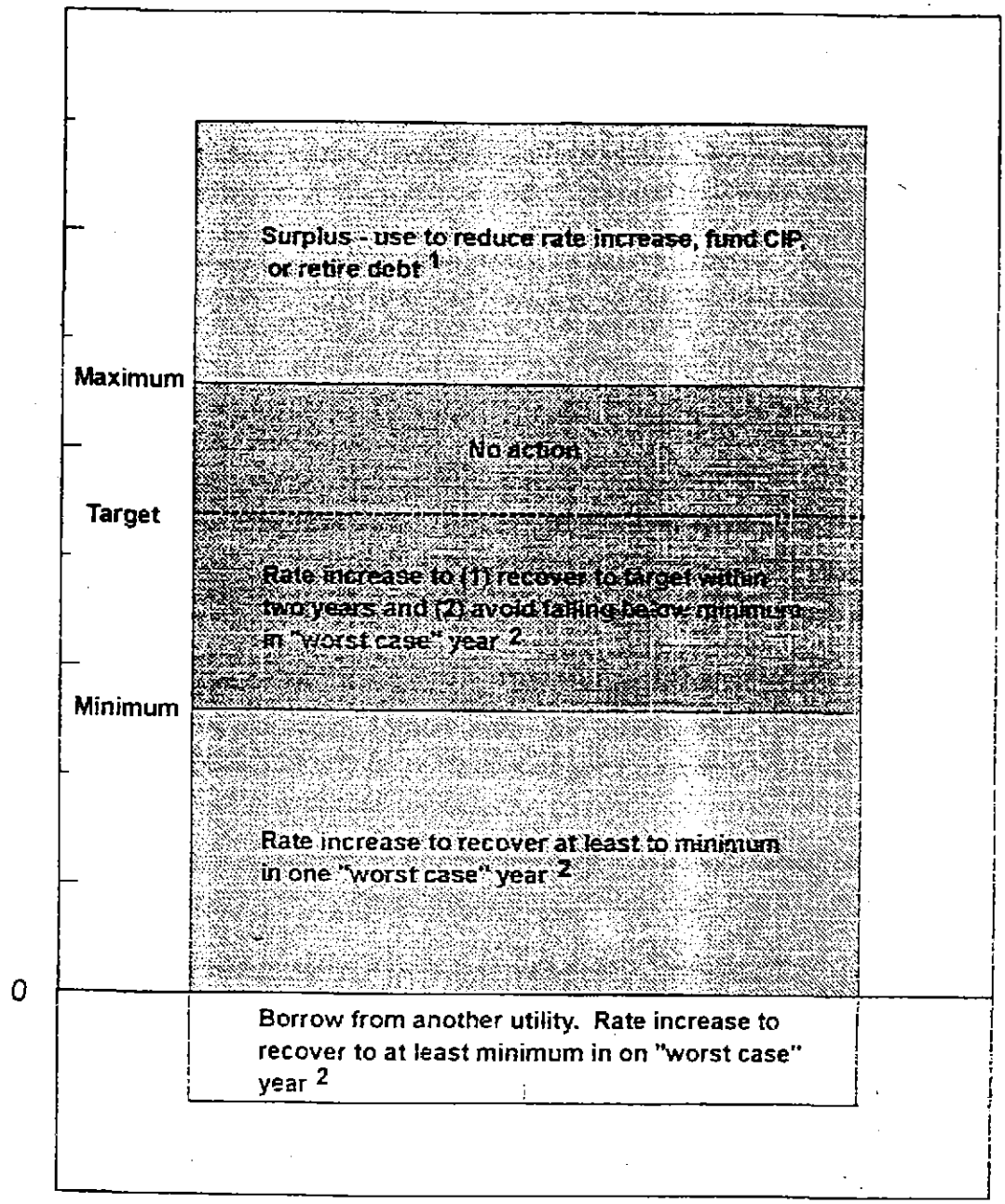
Management of Reserve Levels

Once reserve targets have been established, the management of actual reserve levels against these targets needs to be addressed. As noted earlier, the purpose of reserves is to enhance financial and rate stability. Therefore, if use of reserves occurs, immediate response to replenish those reserves does not necessarily satisfy this objective.

The reserve target should be considered as a planning guideline. As reserves deviate from the target, moderate action should be taken to return to that target. If reserves deviate drastically, more aggressive action would be taken, but planned to provide a smooth transition.

An example of a reserve management strategy for operating reserves is shown in the attached figure. In this case, operating reserves are treated as the combination of working capital and operating contingency reserves. A similar type of strategy would apply to targets for replacement reserves or the capital contingency reserve. In this example, the following guidelines would apply:

UTILITY RESERVE ANALYSIS
RESERVE MANAGEMENT SCHEMATIC



1 Limit use for rate reductions to avoid dramatic rate increases following reduction of reserves.

2 "Worst case" or pessimistic year defined by 95% confidence interval based on historical patterns.

- Moderate surpluses upward results in no response, since gradual increases in utility costs would increase the reserve target.

- Substantial surpluses result in direct use for rate reduction or less direct rate benefit through CIP funding or debt retirement. If used for rate reduction, it is assumed to be used over 2 (or more) years, with a rate deficit of no more than 50% of CPI allowed in order to protect against significant rate increases when surpluses are depleted.

- Moderate shortfalls are assumed to be recovered over two years, and included as budget expenses on that basis.

- Extreme shortfalls continue to be subject to the two year recovery objective, but are also subject to a "worst case" recovery to some minimum level.

It should be noted that the reserve target will change annually with expenses. This change should be directly budgeted unless a surplus exists.

The definition of minimum and maximum reserve levels can be based on a more detailed examination of cash flow requirements, or through a subjective review. For example, the combined operating reserve (working capital and operating contingency) target may consist of working capital plus a two-year operating contingency. The minimum might be set at 50% of working capital plus a one-year operating contingency, while the maximum might be set at working capital plus a three-year operating contingency.

An important point in the review of managing reserves is the impact on budgeting and forecasting. It is important to note that, in addition to rate stability, lower rates often result from adequate reserve planning. Specifically, instead of a conservative revenue forecast, an average year, or expected value, forecast should be used for budgeting. This would typically result in a higher revenue estimate and lower rate requirement. A "worst case" or pessimistic forecast might also be evaluated, to help assure the adequacy of the anticipated reserves.

Summary of Review

Metro REM currently anticipates a beginning fund balance of $29 million for the 1996-97 fiscal year. Of those funds, this review examined close parallels to three components totaling $18.2 million in anticipated beginning balances:

- Renewal and Replacement, at $3.2 million
- General Account, at $12.0 million, and
- Rate Stabilization Reserve Account, at $3.0 million

While a more detailed investigation would undoubtedly refine the methods and estimates used in this review, we find that appropriate fund levels for these components would be:

- Renewal and Replacement - We recommend that the role of the renewal and replacement account be expanded to address all utility replacement needs. We further recommend that, pending further policy consideration, a target level equal to one-third of the replacement liability be established. In addition, a contingency reserve of $1 million is recommended. This would result in a current reserve target of $8.6 million. Further, annual contributions to this fund would be based on one-third of replacement-based depreciation, or approximately $500,000 per year at present. Finally, we recommend that the next engineering review of replacement contributions be expanded in scope to address all system assets and determine both full and depreciated replacement value for the system. This will provide a more rigorous basis for the target level of replacement funding.

- General Account - We recommend a working capital level equal to 45 days of operating expenses (expense budget net of debt service, capital and ending balance). This would equate to a reserve of $6.85 million in the proposed 1996-97 budget. In addition, one year of operating contingency, or $2.75 million, would be appropriately held here, for a total of $9.6 million. There is also reference to an Operating Account, which together with the General Account is treated as an unrestricted cash resource (in fact, they are combined in certain budget presentations). Unless constrained by bond ordinance, we see no reason for these two separate accounts to be maintained.

- Rate Stabilization Reserve Account - We recommend an operating contingency level *sufficient to support two years of poor financial* performance. Based on some rough estimates, this would be currently set at 10% of service related revenues, or $5.5 million, pending more detailed analysis. One year of that would be located in the general account in order to be readily accessible, with one year, or $2.75 million, located in the rate stabilization reserve. This amount would then be available for the second year of any prolonged financial hardship. We would also recommend investigation into the potential for use of these reserves to be incorporated as revenues for purposes of coverage calculation. We would note that this flexibility would normally require changes to bond ordinance, which may require complete refunding or defeasance of existing debt, and may not therefore be practical.

In aggregate, a target reserve level of $20.95 million is identified. Therefore, while the distribution of funds varies from apparent needs for each component, the current reserve

fund level of $18.2 million is reasonably close to this target. However, rather than the downward trend in these reserves shown in the proposed 1996-97 budget (to an ending balance of $17.8 million), an upward trend may be more appropriate. At the same time, given this level of reserves, it would be worthwhile to confirm that the budget revenue and expense forecasts represent a most likely scenario, rather than a deliberately conservative scenario.

We wish to reiterate that this review is limited in scope and further limited by time and information constraints. A more thorough review would undoubtedly result in revisions to the recommended reserve level, although likely to be in the form of refinement rather than major revision. We would recommend that Metro undertake a more complete review of appropriate reserve levels and establish a complete policy directive for the utility. As a part of this, Metro should review and, as appropriate, reallocate existing fund balances to fulfill the utility's reserve objectives, and establish rules or guidelines for managing reserves. In the interim, the recommendations outlined in this letter will provide a prudent basis for reserve planning, budgeting and use.

It has been a pleasure to provide this summary to Metro Regional Environmental Management Department. Please feel free to call with any questions or comments at (206) 867-1802.

Sincerely,

Edward Cebron
Principal