June 2003

City of Manchester

Actuarial Valuation Report as of January 1, 2003 for the City of Manchester Employees' Contributory Retirement System

MERCER

Human Resource Consulting

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HIGHLIGHTS

This report has been prepared by Mercer Human Resource Consulting to:

- 1. present the results of a valuation of the City of Manchester Employees' Contributory Retirement System as of January 1, 2003;
- 2. review experience under the Plan for the year ended December 31, 2002; and
- 3. provide to the Retirement Board the customary contribution under the Plan for the plan year beginning January 1, 2003.

Section 1 contains the results of the valuation. It includes the experience of the plan during 2002, the current annual costs, and reporting and disclosure information. The customary employer contribution for the plan year ending December 31, 2003 is \$3,305,451 if paid at the beginning of the year by all locations.

Below is a comparative summary of the principal results of the valuation.

			2003	2002
1.	Syste	em Cost		
	a.	Employer normal cost	2,252,492	\$ 2,173,489
	b.	Employer normal cost as a percentage of annualized compensation		
		(during prior year)	5.78%	5.62%
	c.	Customary employer contribution,		
		if paid beginning of year	3,305,451	1,794,576
	d.	Customary employer contribution as percentage of annualized compensation		
		(during prior year)	8.49%	4.64%

HIGHLIGHTS (Continued)

				2003	2002
2.	Syster	n Cost			
	a.	Actuarial pres earned to date	ent value of benefits	79,540,787	\$ 68,180,848
	b.	Actuarial accr	ued liability	106,120,710	96,270,479
	c.	Unfunded actu	narial accrued liability	16,364,857	1,457,848
3.	System	n Assets			
	a. b. c.		t value I rate of return on pasis during preceding	74,796,544 89,755,853 (11.15%)	85,818,863 94,812,631 (5.82%)
4.	assets to date			94.04%	125.87%
5.	Inform	nation on Systen	n Members		
	a.	Number of Sys	stem Members		
		(i) (ii) (iii) (iv)	Active Retired Terminated with deferred vested benefits Total	1,291 499 —103 1,893	1,330 484 66 1,880
	b.	Data on active	System members		
		(i) (ii) (iii) (iv)	Total annualized compensation - during prior year - estimated current year Average reported compensation (prior year) Average attained age Average length of service to da	\$ 38,940,104 40,791,970 30,139 45.7 yrs. tte 9.6 yrs.	\$ 38,692,738 40,598,645 29,092 45.1 yrs. 9.0 yrs.

HIGHLIGHTS (Continued)

c. Data on Inactive Participants

(i)	Average annual benefit for			
	retirees/beneficiaries	\$ 8,978	\$	9,080
(ii)	Average annual benefit for			
	terminated vested	3,351		3,844
(iii)	Average attained age for			
	retirees/beneficiaries	72.4 yrs	S	72.0 yrs.
(iv)	Average attained age for			
	terminated vested	52.1 yrs	S	52.2 yrs.

The customary employer contribution (shown on page 1.) increased from \$1,794,576 for 2002 to \$3,305,451 for 2003 (representing a 84% increase). Factors impacting the contribution are discussed below.

Actuarial Experience

Overall System experience during the year that ended December 31, 2002 was less favorable than expected. Specifically:

- The estimated total return on system assets during 2002 was *negative* 11.15% on a market value basis and *negative* 3.74% on an actuarial basis. Since the assumed return was 7.5%, this resulted in an actuarial asset loss.
- Other demographic experience was approximately as assumed.

The result of these experience factors was a net actuarial loss of \$10.2 million, which represents an annual increase in cash contribution of \$1.1 million over the next fifteen years.

Plan Amendments

The System reduced the normal age of retirement from 62 to 60 and provided for a two-percent annual subsidy on early retirement for participants aged 55 with at least 20 years of service or participants whose age plus years of service equal at least 80 (including previously terminated participants). This amendment was granted during 2002 and became effective November 1, 2002. The increase in plan liabilities was \$3 million, which reflects the impact of the plan amendment as well as a change in assumed retirement rates. The amortization of this of this change increases the customary contribution by \$200,000 for the first 20 years and \$500,000 for the subsequent 10 years

The System adopted a 3% COLA to participants in payment status as of June 1, 2002. The effect of this COLA was to increase liabilities by \$1.2 million. This increase is funded over ten years. For 2003, the impact on the customary contribution is a charge of approximately \$165,000.

HIGHLIGHTS (Continued)

In preparing this report, generally accepted actuarial methods and practices have been used. The valuation is based on employee and financial data which were provided by the plan sponsor and the trustee.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Cynthia Hannan, F.S.A., M.A.A.A. Enrolled Actuary No. 02-6267

Date

6/23/2002

6/23/2003

The undersigned has peer reviewed this report and found acceptable the actuarial assumptions, methods, and procedures utilized therein.

Stephen T. McElhaney, F.S.A., M.A.A.A. Enrolled Actuary No. 02-2625

Date

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SECTION 1 - Summary of Valuation Results

This section sets forth the results of the actuarial valuation.

Section 1.1 shows the transactions of the plan's fund during the year and the development of the actuarial value of assets.

Section 1.2 shows the computation of the normal cost, experience and unfunded actuarial liability as of the valuation date.

Section 1.3 shows the development of the credit balance.

Section 1.4 shows the development of the customary contribution.

SECTION 1.1 - The Assets of the Plan

Based upon information furnished by both the Retirement Board and State Street Bank and Trust, the change in assets for the plan year ending December 31, 2002 is summarized as follows:

Market Value, January 1, 2002 (prior year's valuation)		\$	85,818,863
Contributions			
Employer			
School Food & Nutrition	92,314		
Water	129,851		
EPD	25,449		
School Administration	325,061		
Others	1,034,479		
Aviation	164,199		
Probation	6,058		
Retirement	17,165		
Employee	1,531,458		
Total Contributions			3,326,034
Investment Income			
Dividends	1,067,951		
Interest	720,912		
Net Realized and Unrealized Gain (Loss)	(10,307,707)		
Less Investment expenses	(380,435)		
			(8,899,279)
Payments to Participants			
Benefit payments to pensioners	(4,568,960)		
Refund of employee contributions	(301,901)		
			(4,870,861)
Administrative Expenses		1	(578,213)
Market Value, December 31, 2002		\$_	74,796,544
Return on Market Value of Assets for 2002			(11.15%)

SECTION 1.1 - The Assets of the Plan (Continued)

Development of Actuarial Asset Value

1.	Actuarial value of assets, January 1, 2002	\$	94,812,631
2.	Contributions for 2002 (Employer and Employee, including accrued contributions)		3,326,034
3.	Benefit payments for 2002		4,870,861
4.	Expected return at 7.5% interest assumption		7,009,097
5.	Expected value of assets, January 1, 2003 = $(1) + (2) - (3) + (4)$	\$	100,276,901
6.	Market value of assets, January 1, 2003		74,796,544
7.	Remaining unrecognized gain/(loss) from prior years		
	- 2002 - 2001 - 2000 - 1999	\$ 	(9,596,710) (2,400,029) 2,455,416 547,555 (8,993,768)
8.	Asset gain/(loss) for $2002 = (6) - (5) - (7)$	\$	(16,486,589)
9.	Recognition of asset gain/(loss)		
	- 2003 (20% of 8.) - 2002 - 2001 - 2000 - 1999	\$	(3,297,318) (2,399,176) (800,009) 1,227,708 547,555
10.	Preliminary Actuarial value of assets, January 1, 2003 = (5) + (9)	\$ \$	(4,721,240) 95,555,661
11.	Actuarial value of assets, January 1, 2003 (after applying the 120% of Market Value limit)	\$	89,755,853
12.	Rate of return on actuarial value of assets for 2002		(3.74%)

Normal Cost

1.	Employer normal cost as of January 1, 2003	\$ 2,252,492
Expe	rience Gain (Loss) for 2002	
1.	Unfunded actuarial accrued liability, January 1, 2002	\$ 1,457,848
2.	Employer normal cost	2,173,489
3.	Employer contributions	1,794,576
4.	Interest on (1), (2), and (3) above	137,758
5.	Expected unfunded, January 1, 2003 = $(1) + (2) - (3) + (4)$	\$ 1,974,519
6.	Increase in unfunded due to COLA effective in 2002	1,214,958
7.	Decrease in unfunded due to Assumption Change	(3,319,777)
8.	Increase in unfunded due to Plan Amendment	6,317,683
9.	Actual unfunded, January 1, 2003	16,364,857
10.	(Gain)/Loss for $2002 = (9) - (8) - (7) - (6) - (5)$	\$ 10,177,474
<u>Unfur</u>	nded Actuarial Accrued Liability	
1.	Actuarial Accrued Liability as of January 1, 2003	
	 a) Active members b) Retirees and beneficiaries c) Terminated vested members d) Total 	\$ 63,804,755 40,186,747 2,129,208 106,120,710
2.	Actuarial value of System assets as of January 1, 2003	\$ 89,755,853
3.	Unfunded actuarial accrued liability as of January 1, $2003 = (1) - (2)$	\$ 16,364,857

SECTION 1.2 - Development of Normal Cost, Experience and Unfunded Actuarial Accrued Liability (Continued)

Schedule of Unfunded Liability Amortization Payments

Date Established	Original Amount	Type of Base	Years Remaining	Outstanding Balance	Amortization Payment
01/01/1991	\$ 2,656,461	Initial Unfunded	28	\$ 2,441,104	\$ 196,208
01/01/1992	896,058	Actuarial Loss	4	339,981	94,431
01/01/1993	(2,190,214)	Actuarial Gain	5	(1,003,874)	(230,813)
01/01/1994	(578,653)	Actuarial Gain	6	(307,696)	(60,981)
01/01/1995	(1,359,314)	Actuarial Gain	7	(815,625)	(143,250)
01/01/1995	(2,082,140)	Assumption Change	12	(1,579,870)	(189,992)
01/01/1996	(2,032,133)	Actuarial Gain	8	(1,348,454)	(214,152)
01/01/1997	(1,132,597)	Actuarial Gain	9	(818,476)	(119,356)
01/01/1997	32,202	Plan Amendment	24	29,938	2,537
01/01/1997	588,165	1996 COLA	4	287,000	79,709
01/01/1998	(2,171,128)	Actuarial Gain	10	(1,688,297)	(228,801)
01/01/1998	602,888	1997 COLA	5	355,359	81,705
01/01/1999	(3,341,314)	Actuarial Gain	11	(2,769,106)	(352,117)
01/01/1999	4,750,497	Plan Amendment	26	4,544,995	374,169
01/01/1999	62,532	Assumption Change	16	56,070	5,707
01/01/1999	866,215	1998 COLA	6	592,344	117,391
01/01/2000	(3,136,302)	Actuarial Gain	12	(2,748,371)	(330,514)
01/01/2000	847,614	1999 COLA	7	654,058	114,870
01/01/2001	(1,362,764)	Actuarial Gain	13	(1,254,501)	(143,612)
01/01/2001	958,172	2000 COLA	8	817,632	129,854
01/01/2002	2,810,601	Actuarial Loss	14	2,702,990	296,192
01/01/2002	1,047,075	2001 COLA	9	973,063	141,902
01/01/2003	10,177,474	Actuarial Loss	15	10,177,474	1,072,537
01/01/2003	1,214,958	2002 COLA	10	1,214,958	164,653
01/01/2003	(3,319,777)	Assumption Change	20	(3,319,777)	(302,924)
01/01/2003	6,317,683	Plan Amendment	30	6,317,683	497,606
Total	\$ 11,122,259			\$ 13,850,602	\$ 1,052,959

SECTION 1.2 - Development of Normal Cost, Experience and Unfunded Actuarial Accrued Liability (Continued)

	School Food & Nutrition (1)	Water (2)	EPD (3)	Limited Term (4)	School Administration (5)	Education Assistants (6)	Others (7)	Aviation (8)	District Court (9)	Probation (10)	Parking Facilities (11)	Retirement (12)	Total
Actuarial accrued liability as of January 1, 2003													
a. Active members	\$2,197,297	\$8,027,775	\$3,124,227	\$0	\$7,127,167	\$35,499	\$40,276,953	\$2,741,639	\$136,596	\$137,602	\$0	\$0	\$63,804,755
b. Retirees	2,829,267	4,967,505	1,336,239	0	3,144,613	839,181	25,887,287	638,298	88,206	182,711	191,232	82,208	40,186,747
c. Terminated vested	<u>15,725</u>	26,462	102,885	0	458,156	5,973	1,287,978	124,633	100,675	0	6,721	<u>0</u>	2,129,208
d. Total	\$5,042,289	\$13,021,742	\$4,563,351	\$0	\$10,729,936	\$880,653	\$67,452,218	\$3,504,570	\$325,477	\$320,313	\$197,953	\$82,208	\$106,120,710
Actuarial value of System assets	\$3,992,959	\$10,277,647	\$4,200,673	\$377,117	\$5,762,765	\$5,048,990	\$55,611,952	\$2.829.551	\$784,409	POEC 440	0000 747	6000 007	600 755 050
Unfunded actuarial	φυ,υυ ζ ,υυυ	\$10,277,047	Ψ4,200,01Q	\$311,111	33,702,703	\$3,040,330	\$55,611,952	32,029,331	3/84,409	\$256,146	\$280,717	\$332,927	\$89,755,853
accrued liability (1d2.)	\$1,049,330	\$2,744,095	\$362,678	(\$377,117)	\$4,967,171	(\$4,168,337)	\$11,840,266	\$675,019	(\$458,932)	\$64,167	(\$82,764)	(\$250,719)	\$16,364,857
4. Amortization Bases:	4 1,4 14,655		0002,000	(00,)	0.,00.,	(0.,,00,00.)	V,O.O,E00	00,0,010	(0400,002)	404,707	(802,704)	(\$250,115)	\$10,304,007
a. 1991 Initial	\$24,229	\$45,321	\$3,974	(\$2,566)	\$12,217	(\$12,160)	\$124,919	\$1,057	\$87	(\$2,318)	\$1,448	\$0	\$196,208
b. 1992 Loss	2,236	38,832	1,537	10,309	29,020	9,751	(3,395)	986	2,289	744	1,513	609	94,431
c. 1993 (Gain)/Loss	(23,720)	(5,715)	(14,388)	(11,656)	(19,641)	(16,452)	(120,806)	(5,339)	(10,040)	(522)	(540)	(1,994)	(230,813)
d. 1994 (Gain)/Loss	14,956	39,703	(4,251)	(4,316)	3,567	(25,103)	(83,719)	(1,408)	(48)	8,660	(8,058)	(964)	(60,981)
e. 1995 (Gain)/Loss	25,856	(18,890)	(15,725)	(2,135)	(9,977)	16,105	(126,272)	(3,809)	664	1,248	(9,809)	(506)	(143,250)
f. 1995 SX change	(4,495)	(26,410)	(11,722)	(655)	(8,663)	(9,040)	(121,450)	(2,719)	(2,967)	(616)	(165)	(1,090)	(189,992)
g. 1996 (Gain)/Loss	(16,342)	(38,863)	(9,873)	155	(9,048)	(9,282)	(101,725)	(12,418)	(9,084)	(2,501)	(2,378)	(2,793)	(214,152)
h. 1997 (Gain)/Loss	(9,800)	(53,665)	(812)	(834)	(5,493)	(23,145)	(10,196)	(5,674)	(8,391)	(298)	515	(1,563)	(119,356)
i. 1997 Plan Amendment	0	227	111	0	0	0	2,085	92	0	0	0	22	2,537
j. 1996 COLA	9,663	8,444	900	0	4,969	3,311	50,031	1,080	477	725	109	0	79,709
k. 1998 (Gain)/Loss	(43,014)	(41,944)	(30,158)	(9,305)	173,195	(205,117)	(84,632)	2,951	(2,619)	(545)	13,277	(890)	(228,801)
1. 1997 COLA	7,096	10,615	1,185	0	5,149	2,548	52,647	902	380	610	573	0	81,705
m. 1999 (Gain)/Loss	(6,554)	(41,852)	(23,565)	(2,933)	23,266	(51,344)	(209,427)	(35,719)	(4,737)	(1,265)	(1,350)	3,363	(352,117)
n. 1999 Plan Amendment	9,202	47,902	21,145	0	38,716	0	237,241	13,189	1,454	856	0	4,464	374,169
o. 1999 Assumption Change	1,572	1,589 14.884	(482) 2,182	0	118 6,791	3,329	3,688 76,743	(16)	0 455	0 734	0 701	(762) 0	5,707 117,391
p. 1998 COLA	9,950			ŭ	· ·			1,622					•
q. 2000 (Gain)/Loss	(21,531)	(46,270)	(23,631)	(2,512)	(39,720)	(31,047)	(181,027)	7,552	(5,605)	(1,753)	(2,291)	17,321	(330,514)
r. 1999 COLA	10,273	12,858	2,202	0	8,332	3,362	74,056	1,562	456	739	717	313	114,870
s. 2001 (Gain)/Loss	(19,765)	(16,657)	26,269	(1,499)	2,478	(24,665)	(105,911)	8,125	(8,894)	(741)	(1,236)	(1,116)	(143,612)
t. 2000 COLA	10,929	13,973	3,766	0	10,667	3,356	81,185	2,207	455	744	733	1,839	129,854
u. 2002 (Gain)/Loss	7,505	36,919	5,859	51	2,207	(1,376)	212,955	25,463	5,183	398	670	358	296,192
v. 2001 COLA	10,650	15,642	5,225	0	12,719	5,227	87,686	2,485	455	748	750	315 (42,952)	141,902 1,072,537
w. 2003 (Gain)/Loss	55,236	168,586	58,673	4,658	46,308	67,678	667,310	30,833	8,807	3,699	3,701		
x. 2002 COLA	11,090	20,322	5,303	0	14,945	3,345	104,056	3,082	383 (1,938)	751 (1.800)	766	610 0	164,653 (302,924)
y. 2002 Assumption Change	(6,834)	(37,497)	(15,000)	0	(30,494)	(71)	(200,589)	(8,701)	(1,938)	(1,800) 2.023	0 88	0	497,606
z. 2002 Plan Amendment	9,658	62,454	25,335	•	49,889	300	327,785 \$753,238	16,597 \$43,982	(\$29,301)	2,023 \$10,320	88 (\$266)	(\$25,416)	\$1,052,959
Total	\$68,046	\$210,508	\$14,059	(\$23,238)	\$321,517	(\$290,490)	∌ / 33,∠38	\$45, 5 62	(\$28,301)	\$10,320	(3200)	(920,410)	\$1,002,000
5. Employer													
Normal Cost	\$91,951	\$152,707	\$97,900	\$0	\$506,346	\$4,063	\$1,218,030	\$180,299	\$561	\$635	\$0	\$0	\$2,252,492

Development of Credit Balance

1. Credit balance as of January 1, 2002	\$	0
2. Employer Normal Cost for 2002	2,173,4	89
3. Net amortization (charge) credit for 2002	(378,9	13)
4. Adjustment for Negatives		0
5. Interest on $(1) + (2) + (3)$	134,59	92
6. Employer contributions for 2002	(1,794,5	76)
7. Interest on 6.	(134,5)	<u>92)</u>
8. Credit balance as of December 31, 2002 = $(1) + (2) + (3) + (4) + (5) + (6) + (7)$	\$	0

The credit balance is an accumulation of contributions plus interest that are made in excess of the customary contribution. A credit balance as of the beginning of a Plan Year can be used to reduce the customary contribution for that Plan Year.

SECTION 1.3 - Credit Balance (Continued)

	School Food & Nutrition	Water	EPD	Limited Term	School Administration	Education Assistants	Others	Aviation	District Court	Probation	Parking Facilities	Retirement	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	iotai
1. January 1, 2002 (Credit Balance) /													
Funding Deficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2. Employer Normal Cost	\$95,701	\$136,419	\$86,330	\$0	\$481,869	\$0	\$1,205,385	\$166,089	\$472	\$561	\$0	\$663	\$2,173,489
3. Amortization													
charges / (credits)	(\$1,104)	(\$3,357)	(\$60,252)	\$0	(\$148,769)	\$0	(\$145,324)	\$2,171	(\$40,030)	\$5,647	(\$4,821)	\$16,926	(\$378,913)
4. Adjustments for negatives	(\$2,283)	(\$3,211)	(\$629)	\$0	(\$8,039)	\$0	(\$25,582)	(\$4,061)	\$39,558	(\$150)	\$4,821	(\$424)	\$0
5. Interest on													
1. + 2. + 3. + 4.	\$6,924	\$9,738	\$1,909	\$0	\$24,379	\$0	\$77,586	\$12,315	\$0	\$454	\$0	\$1,287	\$134,592
6. Contributions	(\$92,314)	(\$129,851)	(\$25,449)	\$0	(\$325,061)	\$0	(\$1,034,479)	(\$164,199)	\$0	(\$6,058)	\$0	(\$17,165)	(\$1,794,576)
7. Interest on 6.	(\$1,875)	(\$2,637)	(\$1,575)	\$0	(\$14,322)	\$0	(\$64,021)	(\$10,162)	\$0	(\$375)	\$0	(\$1,062)	(\$134,592)
8. December 31, 2002 (Credit Balance) /													
Funding Deficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

SECTION 1.4 - Customary Contribution

Development of Customary Contribution

1.	Employer Normal Cost	\$ 2,252,492
2.	Amortization charges/credits	1,052,959
3.	Credit Balance	 0
4.	Customary contribution, January 1, 2003	\$ 3,305,451
5.	Customary quarterly payments = $(4) \times 1.049181 \div 4$, determined by division as shown on the following page.	\$ 867,004
6.	Customary contribution made in four equal installments	\$ 3,468,016

SECTION 1.4 - Customary Contribution (Continued)

	School Food & Nutrition (1)	Water (2)	EPD (3)	Limited Term (4)	School Administration (5)	Education Assistants (6)	Others (7)	Aviation (8)	District Court (9)	Probation (10)	Parking Facilities (11)	Retirement (12)	Total
1. Employer Normal Cost	\$91,951	\$152,707	\$97,900	\$0	\$510,409	\$0	\$1,218,030	\$180,299	\$561	\$635	\$0	\$0	\$2,252,492
2. Amortization Bases	\$68,046	\$210,508	\$14,059	\$0	\$7,789	\$0	\$753,238	\$43,982	(\$29,301)	\$10,320	(\$266)	(\$25,416)	\$1,052,959
3. (Credit Balance) / Funding Deficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4. Preliminary customary employer contribution as of 1/1/2003: (1.+2.+3.)	\$159,997	\$363,215	\$111,959	\$0	\$518,198	\$0	\$1,971,268	\$224,281	(\$28,740)	\$10,955	(\$266)	(\$25,416)	\$3,305,451
5. Customary employer contribution adjusting for any negatives in 4.	\$157,405	\$357,332	\$110,146	\$0	\$509,804	\$0	\$1,939,338	\$220,648	\$0	\$10,778	\$0	\$0	\$3,305,451
6. Customary quarterly payment: ((5. x 1.049181)÷4)	\$41,287	\$93,726	\$28,891	\$0	\$133,719	\$0	\$508,679	\$57,875	\$0	\$2,827	\$0	\$0	\$867,004
Annualized Compensation during prior year	\$1,298,216	\$3,490,585	\$1,777,199	\$0	\$6,625,423	\$0	\$22,518,922	\$3,114,957	\$38,163	\$38,296	\$0	\$38,343	\$38,940,104
Customary Contribution as a percent of pay	12.12%	10.24%	6.20%	0.00%	7.69%	0.00%	8.61%	7.08%	0.00%	28.14%	0.00%	0.00%	8.49%

SECTION 2 - Basis of Valuation

In this section, the basis of the valuation is presented and described. The provisions of the plan and the census of participants provide the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

The valuation is based upon the premise that the plan will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions illustrated in Section 2.3.

The valuation was based on assumptions and methods which, in our opinion, are appropriate for the plan and the employee group and are consistent with accepted actuarial practices.

PLAN	City of Manchester Employees' Contributory Retirement System					
	Effective January 1, 1974, last amended effective November 1, 2002.					
ELIGIBLE EMPLOYEE	Employees are eligible for membership in the Retirement System if they are:					
	Full-time or Permanent Part-time Employees of the City, unless exempted; or					
	2. an elected or appointed Official of the City holding City Office.					
	The Retirement System does not cover certain categories of employees, for example:					
	1. temporary employees					
	2. members of boards and commissions who are not Full-time or Permanent Parttime Employees of the City;					
	3. members of the Fire or Police Department who are eligible to participate in a state administered retirement system; and					
	 persons who are, or were, eligible to participate in the New Hampshire Retirement System. 					
ELIGIBILITY FOR PARTICIPATION	An eligible employee commences participation on the first of the month following date of employment.					

SECTION 2.1 - Summary of Plan Provisions (Continued)

YEARS OF SERVICE	One-twelfth of a year of service is credited for each full month worked.
FINAL AVERAGE EARNINGS	Earnings for three (3) Fiscal Years which produce the highest average within the last ten (10) years preceding termination of employment with the City.
NORMAL RETIREMENT DATE	The later of age 60 or completion of five years of service (previously age 62).
NORMAL RETIREMENT BENEFIT	 The annual benefit is equal to (a) + (b): (a) one and one half percent (11/2%) of Final Average Earnings multiplied by Years of Service prior to January 1, 1999 (b) two percent (2%) of Final Average Earnings multiplied by Years of Service after January 1, 1999 For an employee of the City as of January 1, 1974, who: has been credited with no less than twenty (20) Years of Service; and has reached age sixty-two (62) at the time of retirement, the retirement benefit is the greater of the benefit above or a benefit equal to one-half (1/2) of Final Average Earnings.

EARLY RETIREMENT

Available when the sum of an employee's age and years of service equals or exceeds 80 or if the employee's age is at least 55 with 20 years of service. If an employee chooses to receive his benefit before age 60, the accrued benefit will be reduced by 1/6 of one percent for each month that precedes the month after which the members attains age 60.

Members either enrolled in the System or a permanent employee of the City of Manchester as of January 1, 1974 are eligible for early retirement if credited with no less than twenty (20) Years of Service.

Such early retirement benefit shall be equal to the greater of:

- (i) Fifty percent (50%) of the Member's Final Average Earnings, or
- (ii) The benefit determined as for Normal Retirement Benefit reflecting Years of Service and Final Average Earnings as of the Early Retirement Date.

The benefit shall not be reduced for commencement prior to Normal Retirement Date.

LATE RETIREMENT

If working past Normal Retirement Date, continue to be credited for service to actual retirement date.

TERMINATION OF EMPLOYMENT AND VESTING	Return of the employee's contributions plus interest. With five or more years of service, choice of contributions with interest or accrued pension deferred to Normal Retirement Date.
TOTAL AND PERMANENT DISABILITY	If job related, there is no service or age requirement and the minimum benefit is 50% of Final Average Earnings. If not job related, there is a 15-year service requirement and the disability benefit is the benefit accrued to the date of disability.
DEATH BENEFITS	If an employee was not eligible for early retirement at the time of death, the beneficiary will receive employee's contributions plus any interest. If an employee was eligible for retirement at the time of death, an automatic 100% Contingent Annuitant benefit adjusted for early retirement, if applicable, will be paid to the spouse or dependent children (if under age 25).

COST OF LIVING ADJUSTMENT TO PENSION	At discretion of Retirement Board. Increases have been granted in most past as follows:					
	Effective Date June 1, 1986	Increase 4.5%				
	January 1, 1987	1.2%				
	January 1, 1988	2.5%				
	January 1, 1990	3.5%				
	January 1, 1991	2.7%				
	January 1, 1992	7.0%				
	July 1, 1993	3.0%				
	January 1, 1995	2.0%				
	January 1, 1996	4.0% - for those retired between 1974 and 1980				
		3.0% - for those retired between 1981 and 1994				
	January 1, 1997	5.0% - for those retired between 1974 and 1980				
		2.5% - for those retired between 1981 and 1995				
	January 1, 1998	4.5% - for those retired between 1974 and 1980				
		3.0% - for those retired between 1981 and 1997				
	July 1, 1999	4.0% - for those retired between 1974 and 1980				
		3.0% - for those retired between 1981 and 1999				
	June 1, 2000	3.0%				
	June 1, 2001	3.0%				
	June 1, 2002	3.0%				
EMPLOYEE CONTRIBUTIONS	2.5% of Compensation for Service prior to January 1, 1999. 3.75% of Compensation for Service after January 1, 1999. (Paid by employer on behalf of employee under Section 414(h) of the Internal Revenue Code.					
NORMAL FORM OF ANNUITY	Single life annuity					

SECTION 2.2 - Actuarial Basis

1. <u>Actuarial Funding Method</u> - the method of funding benefits under the plan is known as the Entry Age Actuarial Cost Method.

Under this method, an allocation of liability to past service and future service is made by spreading the costs over an employee's career as a level percentage of pay. This is accomplished as follows:

- The <u>normal cost</u>, or current year's cost, is computed for each employee as a level percentage of pay. The sum of the normal cost for all employees is the normal cost for the plan.
- The actuarial present value of future normal cost payments is determined for each employee, based on an application of each employee's normal cost percentage to the actuarial present value of future compensation of the employee. The sum of such values for all employees is the actuarial present value of future normal costs.

The portion of the actuarial present value of projected benefits to be paid from the plan which is not expected to be provided by the actuarial present value of future normal costs is called the <u>actuarial accrued liability</u>. The <u>unfunded actuarial accrued liability</u> is the amount by which the actuarial accrued liability exceeds the actuarial value of assets. An initial unfunded actuarial accrued liability under the new method has been established as of January 1, 1991 and is being funded by level annual contributions over 40 years from that date.

Subsequent amendments to the plan which create increases or decreases to the unfunded actuarial accrued liability are scheduled to be amortized over 30 years.

Subsequent changes in actuarial assumptions which create increases or decreases to the unfunded actuarial accrued liability are scheduled to be amortized over 20 years.

Actuarial gains (or losses) are calculated each year under the method, and are scheduled to be amortized over 15 years.

COLA increases granted after the beginning of any year will be amortized over 10 years beginning with the next plan year.

2. <u>Asset Valuation Method</u> - Effective January 1, 1991, the actuarial value of assets will be determined using the Long Range Yield method. Under this asset valuation method, a preliminary asset value is determined based on the assumed investment return. Differences between this preliminary value and the market value of assets, whether positive or negative, are phased in over a five-year period, thus providing stability in the year-to-year progression of asset values. Use of this method began January 1, 1991 with an initial value set equal to the market value of assets, as reported.

3. <u>Actuarial Assumptions</u>

INVESTMENT RETURN:

7.5% per year compounded annually, net of expenses.

CREDITED INTEREST ON EMPLOYEE CONTRIBUTIONS

5.0% per year compounded annually

SALARY INCREASES:

Assumed compensation increases vary according to the following schedule:

Age	Annual Increase
Under 35	5.5%
35 - 49	5.0%
50 and over	4.5%

CPI INCREASES:

4.5% per year

PRE- AND POST-RETIREMENT MORTALITY:

The 1983 Group Annuity Mortality Table. For disabled lives the preceding table with rates set forward ten (10) years was used.

EMPLOYEE WITHDRAWAL:

Termination rates for sample ages are as follows:

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	10.00%	12.50%
25	8.80%	11.30%
30	6.60%	9.40%
35	4.60%	6.90%
40	3.60%	5.50%
45	2.40%	3.40%
50	0.00%	0.00%

ASSUMED RETIREMENT AGE:

The rates at which members are assumed to retire are as follows:

Age	Rate	<u>Age</u>	Rate
50	5%	58	10%
51	5%	59	10%
52	5%	60	10%
53	5%	61	10%
54	10%	62	50%
55	10%	63	15%
56	10%	64	15%
57	10%	65	100%

Terminated vested participants are assumed to retire at age 60.

The rates from last year valuation were as follows:

• Employees hired prior to 1974

Age	Rate			
Under 60	0%			
60	15%			
61	15%			
62	50%			
63	15%			
64	15%			
65	100%			

Other employees

Age	Rate
Under 62	0%
62	50%
63	15%
64	15%
65	100%

Terminated vested participants were assumed to retire at age 62.

VALUATION COMPENSATION:

Valuation compensation for active System members is equal to their annualized reported compensation in the prior year adjusted by the compensation increase assumption to account for anticipated increases during the current year.

PRE-RETIREMENT DEATH BENEFIT:

Calculated using aforementioned mortality, interest and termination assumptions and on the assumption that 100% of System members have spouses, with husbands three years older than wives.

INCIDENCE OF DISABILITY:

Calculated using disability rates equal to 50% of 1955 United Auto Workers Table.

Sample incidence rates are as follows:

Age	<u>Male</u>	<u>Female</u>			
25	.015%	.025%			
40	.035%	.050%			
55	.180%	.245%			

50% of disablements are assumed to be work-related.

Assumed future COLA's: None

City of Manchester Employees' Contributory Retirement System Distribution of All Employees By Age and Service as of 1/1/2003

	Years of Credited Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	21	29									50
	13,009	20,324									17,252
25 to 29	19	41	7								67
		25,498									24,610
30 to 34	10	38	26	9	1						84
		27,984	39,283								31,147
35 to 39	16	77	27	18	20						158
		23,900	40,429		40,507						30,211
40 to 44	28	96	47	25	32	15	1				244
	14,684	21,302	31,112		44,377						28,827
45 to 49	14	60	52	42	27	22	20				237
		23,954	29,826	30,624	37,738		46,516				30,950
50 to 54	7	47	23	38	41	15	27	2			200
		20,473	34,093	31,296			52,863				33,561
55 to 59	6	35	19	11	24	18	16	6	2		137
		26,591			33,400						34,651
60 to 64	2	18	11	9	9	14	8	3		2	76
											33,593
65 to 69	1	10	2		6	5	4				28
											16,292
70 & up		4	1	1	2		2				10
Total	124	455	215	153	162	89	78	11	2	2	1291
HULAI	16,809	23,116	33,075	35,127	36,110	:		1 1	۷		30,139
	10,009	20,110	33,073	00,121	50,110	00,000	77,007			l	00,100

Total Earnings

38,940,104

Average Age

45.69

Average Service

9.61

City of Manchester Employees' Contributory Retirement System School Food and Nutrition Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25											
25 to 29											
30 to 34	1	1									2
35 to 39	2	4	3	1							10
40 to 44	3	10	5	2							20 10,931
45 to 49		6	7	5	1						19
50 to 54		4	4	3	5						19
55 to 59		3	4			2					9
60 to 64		1	3	3		1	2				10
65 to 69	1	7	2		4	2	1				17
70 & up		2	1		1		1				5
Total	7	38 8,629			11	7	5				111 11,696

Total Earnings 1,298,256 Average Age 52.90 Average Service 9.14

City of Manchester Employees' Contributory Retirement System Water Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service											
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	
Under 25												
25 to 29	1	4									5	
30 to 34			1	3		· WPONIMALI					4	
35 to 39	1	7			7						15	
40 to 44		2	3	4	5	2		***************************************			16	
45 to 49			3	2	1	4	3				13	
50 to 54			01000000	3	4	2	5	1			15	
55 to 59			1	1		1	2	2			7	
60 to 64					1	2	2				5	
65 to 69												
70 & up												
Total	2	13	8	13	18	11	12	3			80 43,632	

Total Earnings3,490,560Average Age45.51Average Service15.74

City of Manchester Employees' Contributory Retirement System EPD Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service											
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	
Under 25												
25 to 29												
30 to 34	1	1	2								4	
35 to 39	1	2	1		1				The second secon		5	
40 to 44		3	2	2	1						8	
45 to 49		2	5		2	1	1				11	
50 to 54		1		1	2		2				6	
55 to 59				1		1	1				3	
60 to 64			1		1						2	
65 to 69							1				1	
70 & up							1				1	
Total	2	9	11	4	7	2	6				41 43,346	

Total Earnings1,777,186Average Age46.82Average Service11.92

City of Manchester Employees' Contributory Retirement System Limited Term, School Administration and Education Assistants Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service											
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total	
Under 25	15	15								-	30	
											12,155	
25 to 29	11	13									24	
											14,069	
30 to 34	3	15	2								20	
											13,565	
35 to 39	7	34	5	3	1						50	
10.4	40	12,820	4.0								15,058	
40 to 44	19		18	1	2	1					90	
45.4.40	40	12,462	15	15	0	2					13,686 85	
45 to 49	12	1	15	15	8	2					16,409	
50 A- 54	4	15,283 26	6	12	19	3		1			71	
50 to 54	4	12,541	Ö	12	19	3		'			16,532	
55 to 59	1	12,041	3	2	7	6	3				36	
	1	,	Ŭ	_	•	ĺ					17,151	
60 to 64	1	10	1	1	2	5					20	
		, -		:							16,240	
65 to 69		3				2	2				7	
70 & up		1		1	1						3	
Total	73	213	50			1	5	1			436	
	12,707	13,391	16,973	19,057	19,271						15,196	

Total Earnings 6,625,456 Average Age 44.72 Average Service 5.93

SECTION 3 - Participant Data Exhibits (Continued)

City of Manchester Employees' Contributory Retirement System Others Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	6	12								overnos contratos con	18
25 to 29	6	23 30,453	7								36 30,826
30 to 34	4	19	18	5	1						47 35,494
35 to 39	4	27 35,647	15	11	11						68 38,335
40 to 44	5	24 35,375	15	12	24 46,951	11	1				92 40,524
45 to 49	1	16	20 37,443	18	14	14	16				99 41,258
50 to 54	3	15	11	18	11	8	19				85 47,598
55 to 59	5	18	7	5	17	7	10	4	2		75 41,018
60 to 64		7	4	5	5	6	4	3		2	36 44,877
65 to 69					2	1					3
70 & up	34.00.00	1									1
Total	34 23,509	1		74 41,246			50 47,834		2	2	560 40,212

Total Earnings 22,518,720 Average Age 45.23 Average Service 11.77

30

City of Manchester Employees' Contributory Retirement System Aviation Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25		2									2
25 to 29	1	1			·						2
30 to 34	1	2	3	1							7
35 to 39	1	3	3	3							10
40 to 44	1	8	4	4							17
45 to 49	1	3	2	2	1						9
50 to 54		1	2	1							4
55 to 59			4	2		1					7
60 to 64	1		2		**************************************						3
65 to 69											
70 & up											Land of the Sec
Total	6		20 50 724	13	1	1					61 51 065
		48,597	58,721		L,						51,065

Total Earnings 3,114,965 Average Age 43.31 Average Service 6.82

City of Manchester Employees' Contributory Retirement System District Court Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25											
25 to 29				1100-1100-11							
30 to 34											
35 to 39					an and a second						
40 to 44						1					1
45 to 49											
50 to 54			44000			A				. 4.155/00/24 (904	
55 to 59					11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1						
60 to 64											
65 to 69									-		
70 & up						1					1
Total						1					1

Average Age 44.86 Average Service 24.44

City of Manchester Employees' Contributory Retirement System Probation

Distribution of Employees by Age and Service as of 1/1/2003

	Years of Credited Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25											
25 to 29										**************************************	
30 to 34											
35 to 39											1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
40 to 44											
45 to 49						1					1
50 to 54											
55 to 59											
60 to 64											
65 to 69										4114	
70 & up											
Total						1					1

Average Age 45.50 Average Service 23.55

APPENDIX I

City of Manchester Employees' Contributory Retirement System

FINANCIAL DISCLOSURE UNDER GAS #25

The Supplementary Information required under GAS #25 is provided in the following schedules

Schedule of Employer Contributions

	Annual Required Contribution*	Percentage Contributed
Fiscal 2002	\$1,794,576	100%
Fiscal 2001	\$1,117,163	100%
Fiscal 2000	713,685	100%
Fiscal 1999	796,552	100%
Fiscal 1998	514,216	100%
Fiscal 1997	543,835	100%
Fiscal 1996	504,328	100%
Fiscal 1995	1,006,237	100%

^{*} Annual contribution for plan year beginning within fiscal year, assuming payment at beginning of plan year.

City of Manchester Employees' Contributory Retirement System

FINANCIAL DISCLOSURE UNDER GAS #25 (cont'd)

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Unfunded Actuarial Accrued Liability (Surplus) (b)	Actuarial Accrued Liability (c)	Funded Ratio (a)/(c)	Annualized Covered Payroll (prior year)
1/1/2003	89,755,853	16,364,857	106,120,710	84.6%	38,940,104
1/1/2002	94,812,631	1,457,848	96,270,479	98.5%	38,692,738
1/1/2001	90,144,513	(3,049,404)	87,095,109	103.5%	35,370,961
1/1/2000	82,584,305	(3,263,538)	79,320,767	103.0%	29,581,577
1/1/1999	72,569,967	(1,494,444)	71,075,523	102.1%	28,439,796
1/1/1998	65,839,177	(4,296,452)	61,542,725	107.0%	26,961,375
1/1/1997	59,838,164	(3,121,758)	56,716,406	105.5%	24,418,320
1/1/1996	55,546,837	(2,973,375)	52,573,462	105.7%	23,320,343

City of Manchester Employees' Contributory Retirement System

FINANCIAL DISCLOSURE UNDER GAS #25 (cont'd)

Demonstration That Equivalent Single Amortization Period is Within the Maximum Acceptable Time

- Amortization is required as a level percentage of projected payroll
- All figures are expressed for fiscal 2003 based on the results of the January 1, 2003 valuation

		Total
1.	Covered Projected Payroll 2003	\$40,791,970
2.	Remaining Amount of Base	\$13,850,602
3.	Remaining Amortization Years	N/A
4.	Amortization Factor based on (3)	N/A
5.	Total Payment	\$1,052,959
6.	Payment as Level % of Payroll (5)/(1)	2.59%
	Equivalent Single Period	
7.	Weighted Average Amortization Factor (2)/(5)	13.15
8.	Equivalent Single Amortization Period (Nearest whole year)	35

The equivalent single amortization period is 35 years, which is within the 40 year required maximum period.

Note: for details of amortization bases, see attached

Demonstration That Equivalent Single Amortization Period is Within the Maximum Acceptable Time (cont'd)

(1) Covered Projected Payroll 2002

\$ 40,791,971

Type of Base	Date Established	Remaining Amount of Base		Amortization Factor based on (3)	Payment (2)/(4)	Payment as Level % of Payroll (5)/(1)
		(2)	(3)	(4)	(5)	(6)
Initial Unfunded	01/01/1991	2,441,104	28	12.44	196,208	0.48%
Actuarial Loss	01/01/1992	339,981	4	3.60	94,431	0.23%
Actuarial Gain	01/01/1993	(1,003,874)	5	4.35	(230,813)	(0.57%)
Actuarial Gain	01/01/1994	(307,696)	6	5.05	(60,981)	(0.15%)
Actuarial Gain	01/01/1995	(815,625)	7	5.69	(143,250)	(0.35%)
Assumption Change	01/01/1995	(1,579,870)	12	8.32	(189,992)	(0.47%)
Actuarial Gain	01/01/1996	(1,348,454)	8	6.30	(214,152)	(0.52%)
Actuarial Gain	01/01/1997	(818,476)	9	6.86	(119,356)	(0.29%)
Plan Amendment	01/01/1997	29,938	24	11.80	2,537	0.01%
1996 COLA	01/01/1997	287,000	4	3.60	79,709	0.20%
Actuarial Gain	01/01/1998	(1,688,297)	10	7.38	(228,801)	(0.56%)
1997 COLA	01/01/1998	355,359	5	4.35	81,705	0.19%
Actuarial Gain	01/01/1999	(2,769,106)	11	7.86	(352,117)	(0.86%)
Plan Amendment	01/01/1999	4,544,995	26	12.15	374,169	0.92%
Assumption Change	01/01/1999	56,070	16	9.82	5,707	0.01%
1998 COLA	01/01/1999	592,344	6	5.05	117,391	0.29%
Actuarial Gain	01/01/2000	(2,748,371)	12	8.32	(330,514)	(0.81%)
1999 COLA	01/01/2000	654,058	7	5.69	114,870	0.28%
Actuarial Gain	01/01/2001	(1,254,501)	13	8.74	(143,612)	(0.35%)
2000 COLA	01/01/2001	817,632	8	6.30	129,854	0.32%
Actuarial Loss	01/01/2002	2,702,990	14	9.13	296,192	0.73%
2001 COLA	01/01/2002	973,063	9	6.86	141,902	0.35%
Actuarial Loss	01/01/2003	10,177,474	15	9.49	1,072,537	2.63%
2002 COLA	01/01/2003	1,214,958	10	7.38	164,653	0.40%
Assumption Change	01/01/2003	(3,319,777)	20	10.96	(302,924)	(0.74%)
Plan Amendment	01/01/2003	6,317,683	30	12.70	497,606	1.22%
Total	01/01/2000	13,850,602	50	1=., 0	1,052,959	2.59%
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City of Manchester Employees' Contributory Retirement System

FINANCIAL DISCLOSURE UNDER GAS #25 (cont'd)

City of Manchester Employees' Contributory Retirement System Illustrative Financial Disclosure Under GAS #25

The information presented in the required supplementary schedule was determined as part of the actuarial valuation at the date indicated below. Additional information as of the latest actuarial valuation follows:

Valuation Date	1/1/2003			
Actuarial Cost Method	Entry Age			
Amortization Method	Level Percentage Closed			
Equivalent Single Remaining Amortization Period	35 years			
Asset Valuation Method	5-Year Smoothed Market			
Actuarial Assumptions				
Investment Rate of Return	7.5%			
Projected Salary Increases				
Under age 35	5.5%			
• Ages 35-49	5.0%			
Age 50 and over	4.5%			
CPI Increase	4.5%			

APPENDIX II

Pension Benefit Obligation

Pension Benefit Obligation as of January 1, 2003

a) Active Members

	Accumulated employee contributions, including allocated investment earnings Employer-financed	\$ 13,050,940 40,664,951	\$ 53,715,891
b)	Retirees and beneficiaries		40,186,747
c)	Terminated vested members		 2,129,208
d)	Total		\$ 96,031,846
РВО	Service Cost as of January 1, 2003		4,074,600