SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

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JAMES R. WINFREE
Executive Director

LISA J. MORRIS
Deputy Executive Director

August 15, 2008

Aristotle Hutras, Director
Ohio Retirement Study Council
88 East Broad Street, Suite 1175
Columbus, OH 43215

RE: Iran/Sudan Divestment

Dear Mr. Hutras:

Enclosed in this letter is SERS' update regarding implementation of its Iran/Sudan divestment policy for FY 2008. As noted in my letter of June 26, 2008, I had anticipated receiving data from our external money managers to enable us to prepare this year-end summary. As you know, all of SERS' investments are externally managed. We have received the necessary data and our analysis is complete.

To recap, the starting point for SERS' divestment activity last year was the Retirement Board's adoption of an Iran/Sudan Investment Policy on September 26, 2007. This policy honors the legislature's intent with regard to divestment while emphasizing the Board's fiduciary duties to its members. This policy also provides a roadmap for staff and our external investment managers concerning the engagement process and due diligence provided to the scrutinized companies on the list. The engagement process plays a prominent role in SERS' activities during the fiscal year, as shown in Exhibit A.

FY 2008 Results

Exhibit B shows that the initial 36 scrutinized companies in SERS' portfolio had a market value of $167.8 million as of July 1, 2007. At the end of the first fiscal year, SERS had 20 scrutinized companies – a reduction of 44%. The market value of those remaining 20 companies was $165.3 million as of June 30, 2008. Despite eliminating $71 million worth of scrutinized companies during the year, the total market value did not decline much, from $167.8 to $165.3 million. This is a noteworthy finding, as the international stock market (as measured by the MSCI EAFE Index) was down 10.2% for the same period.

As staff analyzed the performance of those 20 companies, only four underperformed the MSCI EAFE Index. The other 16 had returns for the year ranging from -8% to +56%, and averaged approximately +11.5% each. This helps explain how SERS was able to eliminate 16 companies (44% of the benchmark list) with an initial market value of $71 million, but the total market value only went down $2.5 million, or 1.5% for the year.

Exhibit C shows SERS' holdings in its new benchmark list for FY 2009. We will be re-setting our benchmark list at the beginning of each new fiscal year to accommodate changes made during the previous year. For example, some companies will come off the list because they were removed by the third-party screening entity or as the result of engagement by SERS or the Sudan Divestment Task Force. Other companies will be added because they began scrutinized business operations in one of those two countries.

For FY 2009, seven scrutinized companies were added to the list that are held by SERS. That means that as of July 1, 2008, SERS now holds 27 scrutinized companies with a market value of $252.7 million. This is our new benchmark, against which we will measure our progress at the end of next year, June 30, 2009.

As always, if you have questions or would like more information, please feel to contact me directly any time at (614) 222-5800.

Sincerely,

James R. Winfree
Executive Director

Enclosures

Exhibit A

School Employees Retirement System
FY 2008 Iran/Sudan Investment Policy Implementation Summary

Executed Steps:

September 26, 2007 – SERS Retirement Board adopts an Iran/Sudan Investment Policy.

October 4, 2007 – SERS sends letters to the 17 affected external investment managers and requests contract amendments to 19 accounts. The amendment requires investment managers to adhere to the new Iran/Sudan Investment Policy. Investment managers are also provided with the list of scrutinized companies as identified by the independent, third-party screening entity engaged by SERS.

October 31, 2007 – As of this date, all SERS investment managers have reviewed the list of scrutinized companies identified by the independent, third-party screening entity, and identified the companies held by SERS.

November 7, 2007 – The engagement process of the scrutinized companies begins. SERS sends letters to each scrutinized company held by SERS requesting that they verify, within 90 days, their activities as described in the Iran/Sudan Investment Policy. Responses are required by February 7, 2008.

November 14, 2007 – The first response is received from a scrutinized company. Based upon the responses received, opportunities for additional engagement become apparent and will be essential to ensure fairness. SERS begins a direct dialogue with the Sudan Divestment Task Force in an effort to provide independent due diligence.

November 16, 2007 – All investment managers' contracts are amended as of this date.

December 14, 2007 – SERS sends letters to all companies identified by the independent, third-party screening entity in which SERS has no holdings, asking those companies to verify their activities as described in the Iran/Sudan Investment Policy. Responses are also required by February 7, 2008.

December 21, 2007 – SERS concentrates on developing a workable reporting system with investment managers and on using the two independent screening entities to keep the scrutinized company list updated. Staff also participates with the other Ohio Retirement Systems in teleconferences and trainings regarding divestment.

January 31, 2008 – Investment managers begin providing standardized monthly reports on all purchases and sales of securities of scrutinized companies. These reports include attestations that the managers have actively searched for replacement holdings.

June 30, 2008 – The fiscal year ends. Staff requests data from outside investment managers to prepare a first-year analysis.

Planned Activities:

SERS will re-set its benchmark list for FY 2009 based on information from its contracted third-party screening entity and the Sudan Divestment Task Force. This revised list will be used to measure the system's progress in another year, at June 30, 2009.

During the upcoming fiscal year, staff plans to re-engage all the scrutinized companies on the list, whether SERS holds them or not.

Exhibit C

School Employees Retirement System
FY09 Benchmark Scrutinized Company List

SERS positions 6/30/08 using FY09 Benchmark Scrutinized Company List		$US Market Value
Air Liquide (L')	$	1,778,081
Aker ASA	$	229,548
Alstom	$	3,457,970
CNOOC	$	5,148,597
Electricity Generating Company	$	7,582
ENI	$	17,909,828
GazProm (including bonds)	$	48,720,746
GS Holdings	$	126,189
Harbin Power Equipment	$	214,480
Itochu	$	64,016
Lukoil	$	19,522,905
MISC Berhad	$	269,258
Mitsui & Co	$	3,672,185
OMV AG	$	4,226,205
Petrobras (Petroleo Brasileiro)	$	31,106,631
PetroChina	$	2,375,547
Petronas Dagagnan	$	51,875
Repsol	$	7,701,065
Rolls Royce (value includes rights)	$	3,420,985
Royal Dutch Shell	$	42,671,888
Saipem	$	54,283
Sasol	$	17,168,388
SINOPEC (China Petroleum)	$	2,950,842
Statoil Hydro	$	9,605,787
Technip	$	6,181,157
Total SA	$	23,926,943
Wartsila	$	117,704
Iran-Sudan Scrutinized Equity & Fixed Income	**$**	**252,680,685**
Companies in which SERS was invested		**27**

Exhibit B

School Employees Retirement System
FY08 Benchmark Scrutinized Company List

SERS positions 6/30/07 using FY08 Benchmark Scrutinized Company List	$US Market Value	SERS positions 6/30/08 using FY08 Benchmark Scrutinized Company List	$US Market Value
ABB	$ 3,681,164		
ACS Actividades	$ 10,867,560		
Aggreko	$ 126,791		
Alcatel Lucent	$ 1,428,002		
Alstom	$ 271,277	Alstom	$ 3,457,970
Amec	$ 5,352,990		
BASF AG NPV	$ 12,921,574		
Cosmo Oil	$ 1,442,650		
Credit Agricole	$ 3,840,337		
Daelim	$ 2,311,262		
Electricity Generating Company	$ 68,820	Electricity Generating Company	$ 7,582
ENI	$ 11,784,623	ENI	$ 17,909,828
GEA Group	$ 152,185		
Harbin Power Equipment		Harbin Power Equipment	$ 214,480
Itochu	$ 3,133,633	Itochu	$ 64,016
JGC Corp	$ 149,642		
Linde	$ 3,091,797		
Lukoil	$ 5,611,525	Lukoil	$ 19,522,905
Mitsubishi Heavy	$ 3,266,610		
Mitsui & Co	$ 4,194,542	Mitsui & Co	$ 3,672,185
Mitsui Engineering and Shipbuilding	$ 1,243,346		
Norsk Hydro	$ 8,390,181		
OMV AG	$ 4,745,282	OMV AG	$ 4,226,205
PetroChina	$ 718	PetroChina	$ 2,375,547
Petrofac	$ 137,830		
Petronas Dagagnan	$ 52,368	Patronas Dagagnan	$ 51,875
Repsol	$ 4,596,558	Repsol	$ 7,701,065
Rio Tinto	$ 10,344,285		
Rolls Royce	$ 4,982,743	Rolls Royce (value includes rights)	$ 3,420,985
Royal Dutch Shell	$ 24,715,524	Royal Dutch Shell	$ 42,671,888
Saipem		Saipem	$ 54,283
Sasol	$ 935,451	Sasol	$ 17,168,388
Sembcorp	$ 1,583,903		
SINOPEC (China Petroleum)	$ 2,096,559	SINOPEC (China Petroleum)	$ 2,950,842
Statoil Hydro	$ 3,457,866	Statoil Hydro	$ 9,605,787
Taisei	$ 621,305		
Technip		Technip	$ 6,181,157
Total SA	$ 25,830,920	Total SA	$ 23,926,943
Wartsila	$ 413,356	Wartsila	$ 117,704
Iran-Sudan Scrutinized Equity & Fixed Income	**$ 167,845,176**	**Iran-Sudan Scrutinized Equity & Fixed Income**	**$ 165,301,634**
Companies in which SERS was invested	**36**		**20**
% Change in Companies on FY08 Benchmark Scrutinized Companies List in which SERS was invested			**-44%**

Ohio Police & Fire Pension Fund
140 East Town Street / Columbus, Ohio 43215–5164 / Tel. (614) 228–2975 / www.op–f.org

Date: May 7, 2008

To: The Honorable Governor Ted Strickland
The Ohio Retirement Study Council
The Honorable Jon Husted, Speaker of the House
The Honorable Bill Harris, Senate President
The Honorable Chris Widener, Chair House Financial Institutions, Real Estate & Securities
The Honorable John Carey, Chair Senate Finance & Financial Institutions

From: William J. Estabrook, Executive Director

Subject: Actuarial Investigation of OP&F's Deferred Retirement Option Plan (DROP)

In accordance with section 742.14 (F) of the Ohio Revised Code, Ohio Police & Fire Pension Fund submits it actuarial investigation on our Deferred Retirement Option Plan (DROP) conducted by Buck Consultants.

Ohio Police & Fire Pension Fund is pleased that the actuarial investigation showed that, to date, the DROP, as currently in effect, has not had a negative financial impact on the Ohio Police & Fire Pension Fund.

Enclosure: Buck Consultants' Actuarial Investigation of the DROP

buckconsultants
an ACS company

April 24, 2008

Board of Trustees
Ohio Police & Fire Pension Fund
140 East Town Street
Columbus, Ohio 43215

RE: Actuarial Investigation of the DROP Required under §742.14(F) of the Ohio Revised Code

Members of the Board:

This letter presents the results of the actuarial investigation of the DROP of the Ohio Police & Fire Pension Fund. This letter was prepared in accordance with §742.14(F) of the Ohio Revised Code, which states:

> At least once in each quinquennial period, the board shall have prepared by, or under the supervision of, an actuary an actuarial investigation of the deferred retirement option plan established under section 742.43 of the Revised Code. The investigation shall include an examination of the financial impact, if any, on OP&F of offering the plan to members.
>
> The actuary shall prepare a report of the actuarial investigation. The report shall include a determination of whether the plan, as established or modified, has a negative financial impact on OP&F and, if so, recommendations on how to modify the plan to eliminate the negative financial impact. If the actuarial report indicates that the plan has a negative financial impact on OP&F, the Board may modify the plan or cease to allow members who have not already done so to elect to participate in the plan. The firefighter and police officers employers' contributions shall not be increased to offset any negative financial impact of the plan.
>
> If the Board ceases to allow members to elect to participate in the plan, the rights and obligations of members who have already elected to participate shall not be altered.

Our analysis shows that, to date, the DROP, as currently in effect, has *not* had a negative financial impact on the Ohio Police & Fire Pension Fund. This letter documents the basis for that conclusion.

Background

The Deferred Retirement Option Plan (DROP) is a voluntary benefit introduced in 2002 by House Bill 134 with the goal of encouraging members to defer retirement. Effective January 1, 2003, active members of OP&F could elect to enter the DROP if eligible for Normal Retirement. A description of the DROP can be found in Table 3 of this report. Briefly, when a member elects to enter the DROP:

- The member's pension benefit is calculated upon entry into the DROP as if the DROP entry date was the member's retirement date
- The member's pension benefits, with COLAs, a portion of the member's OP&F contributions and interest at five percent is credited to the member's DROP account while the member continues to work

- Upon retirement, the member receives the monthly benefits calculated upon entry into the DROP, with COLAs, and can begin to withdraw funds from the DROP account.

The DROP was implemented with the stipulation that it would not have a negative financial impact on OP&F. A DROP that has no negative financial impact on a Fund is also said to be "cost neutral". To be cost neutral, the savings or revenues generated by the DROP must cover the costs of the additional DROP benefits.

The DROP does generate savings and contribution revenue through the extension of careers. The DROP participants do not receive retiree health care benefits while in the DROP, so the cost of OP&F's retiree health care decreases. OP&F continues to receive all employer and some member contributions on behalf of the DROP participants. The longer that a member delays retirement, the higher the amount of retiree health care savings and contribution revenues generated for OP&F.

The DROP does increase the cost of the pension benefits provided. The DROP enables members to start to collect their pension payments in the DROP account before they retire. While the member does receive a smaller annuity benefit under the DROP because that benefit is calculated based on service and average annual salary as of the DROP entry date, these benefits are paid over a longer period of time. In addition, the DROP account is credited with a portion of the member contributions and interest.

The question central to determining if the DROP is cost neutral is this: How long does the DROP delay retirements? If members retiree at the same time with the DROP than they would have without the DROP, then no retiree health care savings or contribution revenue would be generated to cover the higher cost of the DROP benefits. The DROP must change member behavior by encouraging a significant delay in retirement to result in a cost neutral DROP.

Extensive actuarial analysis was done before the January 1, 2003 effective date of the DROP to determine if the OP&F DROP was cost neutral:

- Reports by Watson Wyatt Worldwide dated March 16, 1999 and July 19, 2001
- Report by The Segal Company dated November 21, 2002.

Readers of this report are encouraged to read those reports.

All three reports concluded that the OP&F DROP design was cost neutral. The key conclusion in all three reports was that retirements needed to be delayed for the DROP design to be cost neutral. These reports were all based on projected retirement patterns under the OP&F DROP design. To the extent that actual retirement patterns differ from the retirement pattern projected in the above reports, the cost neutral conclusion of these reports could be reversed.

Financial Impact of the DROP on OP&F

§742.14(F) of the Ohio Revised Code is silent as to how the determination of no financial impact, or cost neutrality, is to be determined. This determination can be made using several methods. The method we have used is to compare the present value of projected cash flows with the DROP to the present values without the DROP for all members of OP&F that have elected to enter DROP as of January 1, 2007 since the DROP inception. The present values that we have compared include:

- The pension benefits paid from OP&F
- The employer and employee contributions made to OP&F
- The retiree health care benefits paid from OP&F
- Administrative expenses

All three reports above made use of the present value comparison basis. The Segal Company report discussed the present value basis and concurred with the Watson Wyatt present value basis results. The Segal Company report also contained an analysis of the change in contribution as a result of the DROP, which is a prospective analysis of results. We have focused our attention on the present value basis because it captures both the past and the future financial impact of the DROP on OP&F.

Unless otherwise noted, this report is based on the same census information, assumptions and methods used for the January 1, 2007 actuarial valuation. A summary of the assumptions and methods used is contained in Table 2 of this report. These assumptions were reviewed in our report titled "Experience Review for the Period January 1, 2002 through December 31, 2006." Besides the use of present values instead of the entry age normal cost method, the other notable exclusion is the use of an alternate retirement pattern to estimate the present values under NO DROP. For this analysis, we have used the retirement pattern that was in effect before the DROP program was in effect. This pattern was last used for the January 1, 2002 actuarial valuation.

Table 1 summarizes the financial impact of the DROP. For the over 3,000 members who have elected to enter DROP through January 1, 2007, we have determined that the DROP has been cost neutral with projected net savings of $2.3 million. The breakdown of these net savings of $2.3 million is as follows:

- Additional employer contributions revenues projected to be $231.1 million; plus
- Health care savings projected to be $70.6 million; offset by
- Additional pension benefits to be paid under the DROP of $299.4 million.

We have not included administrative costs in the above analysis. Administrative costs have been estimated to be about $65,000 per year plus start-up costs of $365,000. The administrative costs are not only for current members in the DROP, but also members that will elect to enter DROP after January 1, 2007. An allocation of administrative costs between members in the DROP and those eligible for the DROP in the future would normally be appropriate for an analysis of this nature. However, given the magnitude of the administrative costs when compared to the numbers above, it is reasonable to conclude that the administrative expenses do not change the conclusion of this analysis.

The present values that we have developed have a past and a future component. For the past component, we accumulated each of the cash flows above with interest to determine the present value of the cash flows under the DROP. We then adjusted these results to reflect cash flows if the DROP had not been in effect. The adjustments we made were based on retirement patterns that were in effect before the enactment of the DROP on January 1, 2003. For the future component of the present value, we developed pension, retiree healthcare and contribution cash flows based on the current valuation assumption to determine present value on a DROP basis. To develop the NO DROP basis, we recast the cash flows based on the pre-2003 retirement patterns and without the DROP provisions in place. To determine the savings due to the DROP, we took the difference between the total DROP present values and subtracted them from the total NO DROP present values.

The analysis so far has focused on the financial impact of the DROP on those members that have elected to enter DROP as of January 1, 2007. Active members that are not in the DROP as of January 1, 2007 are not included in the above analysis. For these active members, we have estimated that the DROP will be cost neutral if careers are roughly 1.5 to 2.0 years longer than they were before the DROP was effective. When the DROP was implemented in 2003, the valuation was conservatively based on careers being 0.9 years. With the actuarial assumption changes made in 2007 based on the last experience study, the valuation currently assumes careers will be 1.1 years longer than pre-DROP levels, so the trend is moving toward the 1.5 to 2.0 years target. The last experience study and this analysis are based on only four years of DROP experience. We do not have enough experience to establish the number of DROP participants projected to stay in the DROP the full eight years. In fact, we have only seen one year of results for people receiving their DROP accounts without penalty. As more experience emerges, we can determine if careers are being extended 1.5 to 2.0 years, resulting in a cost neutral DROP. Going forward, we need to continue to monitor election rates and continue to gather data on how long members remain in the DROP.

Conclusions and Recommendations

Based on the results of this actuarial investigation, it does appear that the DROP has achieved a primary objective of providing an incentive for the most experienced officers on the job to continue working. Through January 1, 2007, we have conservatively estimated that the DROP has extended careers by about 1.1 years. Furthermore, the DROP has been cost neutral for those that have elected to enter DROP through January 1, 2007. For those that have not elected to enter DROP as of January 1, 2007, we estimate that the DROP will be cost neutral if careers are extended from the current anticipation of 1.1 years to about 1.5 to 2.0 years. We may be able to confirm this as more experience emerges. Given the uncertainty of future retirement patterns under the DROP and their impact on the financial impact of the DROP, we recommend that the Board direct Buck to review the emerging retirement experience under the DROP *annually* for the foreseeable future and report on whether the delay in retirement is continuing.

The undersigned are Members of the American Academy of Actuaries and meet the Academy's Qualification Standards to issue this Statement of Actuarial Opinion.

Please call if you have any questions.

Sincerely,

Paul R. Wilkinson

Larry Langer, ASA, EA, MAAA
Principal, Consulting Actuary

Paul Wilkinson, ASA, EA, MAAA
Director, Consulting Actuary

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cc: William J. Estabrook
Kay Penn
Stewart Smith
Arleen Rhodes
Marco Ruffini

TABLE 1
Ohio Police & Fire Pension Fund
Actuarial Investigation of DROP Required under §742.14(F) of the Ohio Revised Code
Summary of Results for Members Who have Elected DROP as of January 1, 2007
(In Millions)

	Police	Fire	Total
Present Value of Past Cash Flows			
DROP			
Additional contributions	37.4	32.5	69.9
Retiree health care benefits savings	0.0	0.0	0.0
Additional pension benefits	0.0	0.0	0.0
NO DROP			
Additional contributions	0.0	0.0	0.0
Retiree health care benefits savings	3.5	2.7	6.2
Additional pension benefits	71.1	53.7	124.8
Present Value of Future Cash Flows			
DROP			
Additional contributions	132.2	124.0	256.2
Retiree health care benefits savings	125.2	104.7	229.9
Additional pension benefits	1,257.8	1,030.4	2,288.2
NO DROP			
Additional contributions	44.1	50.9	95.0
Retiree health care benefits savings	160.1	134.2	294.3
Additional pension benefits	1,003.6	860.4	1,864.0
Present Value of Total Cash Flows			
DROP			
Additional contributions	169.6	156.5	326.1
Retiree health care benefits savings	125.2	104.7	229.9
Additional pension benefits	1,257.8	1,030.4	2,288.2
NO DROP			
Additional contributions	44.1	50.9	95.0
Retiree health care benefits savings	163.6	136.9	300.5
Additional pension benefits	1,074.7	914.1	1,988.8
Net Savings due to DROP			
Additional contributions	125.5	105.6	231.1
Retiree health care benefits savings	38.4	32.2	70.6
Less: additional pension benefits	183.1	116.3	299.4
Net Savings/(Cost) due to DROP	(19.2)	21.5	2.3

TABLE 2
Ohio Police & Fire Pension Fund
Actuarial Investigation of DROP Required under §742.14(F) of the Ohio Revised Code
Summary of Actuarial Assumptions and Methods Used in the Actuarial Investigation

Unless otherwise noted, the assumptions and methods used for this analysis is consistent with the assumptions and methods used for the January 1, 2007 valuation, which is the most recently complete valuation.

ASSUMPTIONS

The assumptions used to determine the DROP and NO DROP liabilities are identical to those used in the January 1, 2007 actuarial valuation except for the Retirement Rates.

INTEREST RATE: 8.25% per annum, compounded annually.

SALARY INCREASE: Assumed annual salary increases are as follows:

Years of Service	Salary Increase Rate
1 or less	11.0%
2	9.5
3	8.5
4	6.5
5 or more	5.0

WITHDRAWAL RATES: The following sample withdrawal rates are based on age and service (for causes other than death, disability, or retirement).

Police

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	0.03660	0.03660	0.03713	0.03047	0.02618	0.02267	0.02130	0.02076	0.01827	0.01967	0.01967
30	0.03084	0.03084	0.03170	0.03018	0.02736	0.02412	0.02178	0.02033	0.01817	0.01752	0.01752
35	0.03464	0.03464	0.03600	0.03564	0.03237	0.02795	0.02402	0.02108	0.01845	0.01589	0.01437
40	0.04524	0.04524	0.04695	0.04563	0.04073	0.03419	0.02799	0.02298	0.01907	0.01454	0.00885
45	0.06156	0.06156	0.06306	0.05916	0.05187	0.04269	0.03371	0.02613	0.02006	0.01379	0.00467
50	0.08252	0.08252	0.08319	0.07518	0.06509	0.05315	0.04106	0.03062	0.02174	0.01436	0.00449
55	0.10733	0.10733	0.10668	0.09299	0.07983	0.06525	0.04991	0.03654	0.02432	0.01686	0.01106
60	0.13557	0.13557	0.13322	0.11220	0.09585	0.07887	0.06020	0.04397	0.02790	0.02157	0.02157

TABLE 2
(continued)

Firefighters

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	0.00795	0.01124	0.01296	0.01355	0.01287	0.01124	0.00911	0.00765	0.00680	0.00651	0.00651
30	0.01368	0.01323	0.01236	0.01124	0.01026	0.00948	0.00882	0.00824	0.00773	0.00725	0.00725
35	0.01718	0.01484	0.01298	0.01151	0.01071	0.01049	0.01049	0.01019	0.00947	0.00821	0.00626
40	0.01916	0.01623	0.01467	0.01397	0.01374	0.01385	0.01388	0.01340	0.01199	0.00942	0.00539
45	0.01962	0.01739	0.01742	0.01863	0.01940	0.01961	0.01905	0.01790	0.01533	0.01094	0.00468
50	0.01863	0.01827	0.02118	0.02550	0.02769	0.02777	0.02595	0.02372	0.01953	0.01275	0.00423
55	0.01623	0.01886	0.02592	0.03459	0.03863	0.03836	0.03465	0.03086	0.02460	0.01490	0.00408
60	0.01247	0.01913	0.03164	0.04590	0.05220	0.05135	0.04512	0.03935	0.03057	0.01739	0.00428

RATES OF DISABILITY AND DEATH BEFORE RETIREMENT: Rates of death are based on the RP2000 Combined Table (sex distinct) set back five years. The following sample rates apply to active members:

Age	Annual Rate of: Death Male	Death Female	Disability
	POLICE		
20	.027%	.017%	.002%
30	.038	.021	.177
40	.077	.048	1.102
50	.151	.112	2.359
55	.214	.168	2.583
60	.362	.272	2.513
62	.469	.348	2.545
65	.675	.506	
	FIREFIGHTERS		
20	.027%	.017%	.004%
30	.038	.021	.100
40	.077	.048	.494
50	.151	.112	2.390
55	.214	.168	3.526
60	.362	.272	4.172
62	.469	.348	3.964
65	.675	.506	

OCCURRENCE OF DISABILITY:

On duty permanent and total	35%
On duty partial	61%
Off duty ordinary	4%

TABLE 2
(continued)

RETIREMENT RATES: The Retirement Rates used to develop the DROP liabilities differ from the liabilities used to develop the NO DROP liabilities. The Retirement Rates used to develop the DROP liabilities are the same as those used for the January 1, 2007 actuarial valuation. The NO DROP liabilities are based on the assumptions used for the January 1, 2002 valuation.

The following rates apply to members upon reaching eligibility for retirement to determine DROP liabilities.

Age	Annual Rate of Retirement	
	Police	Firefighters
48	30%	25%
49	20	15
50	15	15
51	15	15
52	15	15
53	15	20
54	15	20
55	15	20
56	20	20
57	20	20
58	20	20
59	25	25
60	25	25
61	25	25
62	25	30
63	25	30
64	25	30
65	100	100

The following rates apply to members upon reaching eligibility for retirement to determine NO DROP liabilities.

Age	Annual Rate of Retirement	
	Police	Firefighters
48	35%	35%
49	25	25
50	25	25
51	25	25
52	25	25
53	25	25
54	20	25
55	20	25
56	20	25
57	20	25
58	20	25
59	20	25
60	20	35
61	25	35
62	25	35
63	25	35
64	25	35
65	100	100

TABLE 2
(continued)

DROP RETIREMENT RATES: DROP participants are assumed to retire at the retirement rates shown above, with the following exceptions: Second and third years of DROP: 5%, Eighth year of DROP: 100%. This assumption does not apply to the NO DROP liabilities.

RETIREMENT AGE FOR INACTIVE VESTED PARTICIPANTS: Commencement at age 48 and 25 years of service from full-time hire date, whichever is later.

DEFERRED RETIREMENT OPTION PLAN (DROP) ELECTIONS: 85% of members who do not retire when first eligible are assumed to elect DROP.

DEATH AFTER RETIREMENT: According to the RP2000 Combined Table (male only) for pensioners with one-year set forward for police and one-year set back for firefighters. RP2000 Combined Table (female only) with one-year set forward for all beneficiaries. RP2000 Combined Table (male only) for disableds, with six-year set forward for police and four-year set forward for firefighters.

FUTURE EXPENSES: The normal cost is increased by all administrative expenses budgeted, net of the State Subsidy received from the State of Ohio.

UNKNOWN DATA FOR MEMBERS: Same as those exhibited by members with similar known characteristics.

PERCENT MARRIED: 85%

AGE OF SPOUSE: Wives are assumed to be three years younger than their husbands.

OPTIONAL FORM ELECTION: 20% of retirees are assumed to elect the 50% J&S pension.

DEPENDENT PARENTS: Costs based upon allowance for mortality (same rates as for beneficiaries), but no specific allowance for change in dependency status.

DEPENDENT CHILDREN: Each member is assumed to have two children, born when the member was age 26. Dependency is assumed to cease when the child is 22.

TABLE 2
(continued)

MEDICARE PART B PREMIUM TREND RATES: The Medicare Part B premium ($93.50 per month for 2007) is assumed to increase as follows:

Year	Increase
2007	7.75%
2008	7.50
2009	7.25
2010	7.00
2011	6.75
2012	6.50
2013	6.25
2014	6.00
2015	5.75
2016	5.50
2017	5.25
2018 and Later	5.00

METHODS

These methods are consistent with those used for the January 1, 2007 actuarial valuation other than the actuarial cost method.

ACTUARIAL COST METHOD: The actuarial cost method measure used for this analysis is the present value of projected benefits. For purposes of the actuarial valuation, the projected benefit method with level percentage entry age normal cost and open-end unfunded accrued liability with gains and losses reflected in the accrued liability is used.

ASSET VALUATION METHOD: A five-year moving market average value of assets that spreads the difference between the actual investment income and the expected income on the market value (based on the valuation interest rate) over a period of five years. The actuarial value shall not be less than 80% or more than 120% of market value.

PAYROLL GROWTH: Inflation rate of 3.25% plus productivity increase rate of 0.75%.

DATA

CENSUS AND ASSETS: The valuation was based on members of OP&F as of January 1, 2007 and does not take into account future members. All census and asset data was supplied by OP&F. This is consistent with the methods used for the January 1, 2007 valuation.

TABLE 3
Ohio Police & Fire Pension Fund
Actuarial Investigation of DROP Required under §742.14(F) of the Ohio Revised Code
Summary of Deferred Retirement Option Plan (DROP) Benefit Provisions

The summary shown here is unchanged from that contained in the January 1, 2007 actuarial valuation report. Note that the Actual Provisions are as provided for by OP&F.

Eligibility	Age 48 with 25 years of service.
Benefit	Member elects to defer retirement and must remain in the DROP at least three years, but not more than eight years. At retirement, member receives (1) the normal service retirement benefit determined as of the date he entered the DROP, plus cost-of-living adjustments, and (2) his DROP account balance paid in a lump sum or in installments.

The DROP account balance is credited until retirement with the member's retirement benefit amount for the year, adjusted for cost-of-living, plus a portion of the member's contribution for the year, plus interest credited at 5% compounded annually. Annual member contributions are credited to the DROP account based on the following schedule:

Years 1 and 2	50% of member's contribution
Year 3	75% of member's contribution
Years 4-8	100% of member's contribution

If the member terminates employment in the first three years of participating in the DROP, the member forfeits all interest credited to his DROP account. If the member terminates after eight years, the member forfeits all DROP benefits and receives a normal service retirement benefit determined as of his termination date, counting service credit for the DROP participation period.

If the member becomes disabled while participating in the DROP, the member can choose to remain in the DROP or receive a disability benefit determined as of his disability date and forfeit all DROP benefits.

If the member dies while participating in the DROP, the member's spouse or beneficiary receives the DROP account balance and a monthly survivor benefit of 50% of the benefit the member would have received had the member retired the day before death and elected a 50% joint and survivor annuity. (If the member selected a percentage greater than 50%, that percentage applies.) All other death benefits apply as well.