Purchase of Annuity Final Proposal

LEOFF Plan 2 Retirement Board

December 16, 2009

Key Issues

- Service credit purchase limits the defined contribution assets that can be converted to defined benefits

- Process in place for purchase of annuity out of trust funds for Plan 3 members

Background Summary

- Service credit purchase

- Federal legislation

- Plan 3 annuity purchase

Proposal Summary

- Permit LEOFF Plan 2 retirees to purchase an actuarially equivalent life annuity from the LEOFF Plan 2 retirement fund.

- Cost insufficient to increase contribution rates.

Purchase of Annuity

Questions?

LAW ENFORCEMENT OFFICERS' AND FIRE FIGHTERS' PLAN 2 RETIREMENT BOARD

Purchase of Annuity

Final Proposal

December 16, 2009

1. Issue

Members are limited in the amount of money they can convert to LEOFF Plan 2 by the amount required to purchase five years of service.

2. Proposal Summary

Allow LEOFF Plan 2 retirees to purchase an actuarially equivalent life annuity from the LEOFF Plan 2 retirement fund.

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4. Members Impacted

Purchase of annuity could affect any active LEOFF Plan 2 member. As of June 30, 2008 there were 16,626 active members and 1,134 retirees as reported in the Office of the State Actuary's *2008 Actuarial Valuation Report*.

5. Current Situation

Under current law, only Plan 3 members (TRS, PERS & SERS) can purchase an annuity out of the combined trust fund. However, LEOFF Plan 2 members may purchase up to five years of service credit at the time of normal retirement or early retirement. The member must pay the actuarial cost of the additional service credit.

6. Background Information

Under traditional defined benefit plans, retirees receive an automatic and definite level of lifetime payouts based on a fixed accrual formula, regardless of financial market conditions. By contrast, most defined contribution plan participants are left to figure out a distribution strategy on their own, and they continue to be vulnerable to the ups and downs of financial markets in their retirement years. Research shows that one of the most effective ways to reduce the risk of outliving assets is by converting at least some of those assets to an annuity.

Brief History

The LEOFF Plan 2 Retirement Board studied both the Purchase of Service Credit and Purchase of Annuity during the 2004 Interim. Of these two concepts, the Board recommended legislation providing the option to purchase up to five years of service credit at the time of retirement. The legislation was passed by the 2005 Legislature (HB 1269). Although annuities were not available from the trust fund in 2004 when this issue was first studied by the Board, annuities have since become available from the trust fund and have been defined by the Department of Retirement Systems. The Purchase of Annuity topic was studied by the Board during the 2006, 2007 and 2008 Interims reaching the Final Proposal stage in 2006 and 2008, but no legislation was recommended to the Legislature. The topic was deferred for joint consideration with the Select Committee on Pension Policy (SCPP) as one of several issues included in a letter from the Board for the 2009 Interim.

Federal Law

Changes in federal law have liberalized the rules on the transfer of funds between tax-deferred accounts, including government defined benefit pension plans like LEOFF Plan 2, and deferred compensation accounts such as 457, 403(b), and 401(k) plans. Many state and local government pension plans have subsequently provided the opportunity for members to transfer funds, including funds from tax-deferred accounts, into these plans to add value to a member's defined benefit through the purchase of additional service credit or the purchase of an annuity.

Members of LEOFF Plan 2 generally have the opportunity to participate in deferred compensation plans. These plans permit an individual to place a portion of salary into a special account prior to payroll tax reductions. The Department of Retirement Systems (DRS) operates a deferred compensation program consistent with the federal tax requirements of 26 United States Code section 457, commonly called a "457 Plan", in which employees of the state, counties, municipalities and other political subdivisions may participate. Some employers may also participate in other 457 plans or deferred compensation-type plans commonly referred to as "403(b)" or "401(k)" plans.

The Pension Protection Act of 2006 affirmed the purchase of up to 5 years of service credit or "air-time" as permissible under the definition of service credit and made permanent the rules allowing the transfer of funds between the various plan types as described above.

Annuities

At a basic level, annuity contracts are offered by organizations which take a current lump-sum amount of money and pay it out over a period of years. These contracts are regulated by various jurisdictions. Annuities have been in existence for well over two hundred years. The very first mention of Annuities in the United States was the use of these products by the Presbyterian Church in 1740 to provide security for the clergy and widows. Annuities provide the ability to accumulate tax-deferred funds for retirement and then receive a guaranteed income (this process is called Annuitization) payable for life or for a specified period of time.

The specific terms of an annuity will determine how much a person will receive as a stream of guaranteed income in exchange for the lump-sum dollar amount paid up front. There are several different features that may be available with an annuity which affect the price/value of the annuity. The terms and conditions of an annuity contract will specify features such as, whether the annuity will be for a single life or a joint annuity (like a survivor benefit feature), the payment frequency, adjustments for cost of living, and death provisions.

Annuity Purchase Examples in Washington

Some Washington State pension plans currently have provisions that allow the purchase of an annuity:

- RCW 41.50.088 provides members and survivors in the Teachers' Retirement System (TRS) Plan 3, the School Employees' Retirement System (SERS) Plan 3, and the Public Employees' Retirement System (PERS) Plan 3 optional actuarially equivalent life annuity benefit payment schedules that may be purchased from the combined Plan 2 and Plan 3 funds under RCW 41.50.075.

- RCW 41.32.067 provides Teachers' Retirement System (TRS) Plan 1, Plan 2 and Plan 3 members the ability to purchase additional benefits in the form of an annuity, by making a member reserve contribution which is actuarially converted to a monthly benefit at the time of retirement.

Plan 3 Annuity

A member of Teachers' Retirement System (TRS) Plan 3, the School Employees' Retirement System (SERS) Plan 3, and the Public Employees' Retirement System (PERS) Plan 3 may use funds from their Plan 3 Defined Contribution account to purchase a life annuity. A life annuity is a contract that provides a guaranteed income for the rest of a member's life in exchange for a lump-sum dollar amount that is paid up front. The contract specifies the amount paid to purchase the annuity, the benefit amount the member receives each month, and any other terms and conditions. Prior to 2005, a member could only purchase an annuity contract from an insurance company using defined contribution funds invested in the Self-Directed Investment Program.

Beginning July 1, 2005 Plan 3 members were provided with the opportunity to purchase an annuity directly from the pension trust fund using funds invested in the Washington State Investment Board Investment Program (WSIB). The WSIB annuity option is administered by the State of Washington. As defined by the Department of Retirement Systems, the WSIB annuity has several features and options as described in the following table.

WSIB Investment Program Annuity Features and Options	
Contract Provider	Washington State
Minimum Purchase Price	$25,000
Annuity Payment Frequency	Monthly
Rescission Period	15 calendar days from date of purchase
Single Life Annuity	• Provides regular payment for as long as annuitant lives. • Automatic 3% Annual Cost of Living Adjustment (COLA) • Conversion option to Joint Life Annuity • Balance Refund
Joint Life Annuity	• Provides regular payment for as long as member or joint annuitant is alive. • Joint annuitant survivorship options: 100%, 66 2/3%, or 50% • Automatic 3% Annual COLA • Monthly payment pops-up to Single Life Annuity amount if joint annuitant predeceases member. • Balance Refund

Annuitant – The member/owner who purchases the annuity; the payee who receives lifetime monthly payments.

Balance Refund – Any remaining balance equal to the original purchase price minus the total of all annuity payments made to the single or joint annuitants, may be refunded to the specified beneficiary.

Conversion Option – If a single life annuity is purchased and then a subsequent marriage occurs, a one-time opportunity is available to convert to a joint life annuity with the new spouse as the joint annuitant. If a joint annuity is purchased with someone other than a spouse named as the joint annuitant, the annuity may be converted to a single life annuity after payments have begun.

Joint Annuitant – The person designated to receive an ongoing payment in the event of the annuitant's death.

Pop-up – An increase from a joint annuity payment amount to the full single life annuity amount if the annuitant outlives the joint annuitant.

Rescission Period – A period of time (typically 7 to 15 days) during which the terms of the contract may be canceled or altered

Service Credit Purchase

The Legislature passed the Service Credit Purchase benefit during the 2005 Session. This benefit provides LEOFF Plan 2 members the opportunity to purchase up to five years of additional service credit at the time of retirement. The cost of the additional service credit is the actuarial equivalent value of the resulting increase in the member's benefit. A member may pay all or part of the cost of the additional service credit with an eligible transfer from a qualified retirement plan.

Since the inception of the benefit through August of 2007, 15 service credit purchase billings have been requested from the Department of Retirement Systems and paid in full. 11 of the 15 billings were to purchase the maximum of 60 months of service credit; four billings requested to purchase between 30 and 43months of service credit. The average cost of all fifteen billings was $103,045. The average benefit increase from the fifteen billings was $597 per month. The average break even point is just over 14 years, or at age 69.

Months Purchased	Status	Monthly Benefit Increase	Cost	Age at Retirement
30	Paid	$293.39	$56,246.89	56
30	Paid	$309.73	$51,363.14	56
37	Paid	$293.69	$53,187.37	51
43	Paid	$352.54	$69,021.27	57
60	Paid	$849.30	$143,605.96	55
60	Paid	$755.76	$138,952.01	50
60	Paid	$586.12	$100,961.17	54
60	Paid	$662.43	$109,852.08	56
60	Paid	$789.39	$122,791.54	59
60	Paid	$689.26	$117,195.88	62
60	Paid	$591.65	$108,779.19	50
60	Paid	$544.19	$105,764.19	55
60	Paid	$743.28	$137,227.41	54
60	Paid	$869.56	$135,262.18	59
60	Paid	$628.35	$95,476.51	60

Below is an example calculation for the purchase of five years of service credit by an average LEOFF Plan 2 retiree. At the time of retirement, an average LEOFF Plan 2 retiree is age 56, has 17 years of service, and a monthly final average salary of $5,000.

Service Credit Purchase Calculation

1. Calculate Base Benefit:

$$2\% \times 17 \text{ YOS} \times \$5,000 = \$1,700 \text{ per month}$$

2. Calculate Benefit With Additional 5 Years Of Service Credit:

$$2\% \times 22 \text{ YOS} \times \$5,000 = \$2,200 \text{ per month}$$

3. Calculate Increase in Monthly Benefit from Additional Service Credit:

$$\$2,200 - \$1,700 = \$500 \text{ increase per month}$$

4. Calculate Service Credit Purchase Cost:

$$\$500 \div 0.0060302 \,^1 = \$82,916$$

Trust Fund Annuity Purchase

An annuity purchase calculation is similar to the service credit purchase calculation in that the Department of Retirement uses the same actuarial factors for computing the monthly benefit per $1.00 of accumulation for defined benefits. A key difference between an annuity purchase and a service credit purchase is that the annuity purchase does not limit the lump-sum amount that can be converted to a defined benefit. The service credit purchase is limited to converting only up to the amount that would purchase the maximum of five years of service.

In the service credit example above, the retiree would be limited to converting $82,916 into defined benefit payments. An annuity purchase from the trust fund would not have the same constraint and would allow a member to roll-in all assets held from a deferred compensation account or other qualified account. For example, if the average retiree above had $100,000 in a deferred compensation account, the entire amount could be converted into defined benefits through an annuity purchase.

Annuity Purchase Calculation
1. Calculate Base Benefit:

$$2\% \times 17 \text{ YOS} \times \$5,000 = \$1,700 \text{ per month}$$

2. Calculate Benefit Increase from a \$100,000 Annuity Purchase:

$$\$100,000 \times 0.0060302 = \$603.02 \text{ increase per month}$$

3. Calculate New Benefit (Base Benefit *plus* Annuity):

$$\$1,700 + \$603.02 = \$2,303.02 \text{ per month}$$

Commercial Market Annuity

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[1] The factor for the "Monthly benefit per $1.00 of accumulation for defined benefit plans" for an age 56 LEOFF Plan 2 member as found in WAC 415-02-340.

Annuities can be purchased through insurance agents, financial planners, banks and life insurance carriers. However, only life insurance companies issue policies. Products developed by life insurance companies are often marketed through banks and stock brokerage firms.

Generally, commercial market annuities are not available with the same features available on a trust fund annuity and do not provide as favorable annuity payment amounts. Quotes were obtained from five different insurance companies based on an average LEOFF Plan 2 retiree. The annuity quote was based on $100,000 annuity purchase, included a 3% COLA, and had a monthly payment frequency. The income quotes were as follows:

Insurance Company	Quote
American General	$389
Aviva	$402
Fidelity & Guaranty Life	$421
Genworth Life Insurance	$406
Integrity Life Insurance	$400

7. Policy Option

Policy Option: Purchase of Annuity

A member, or survivor of a member who applies for retirement benefits from LEOFF Plan 2 may, at the time of application may purchase an actuarially equivalent life annuity from the LEOFF Plan 2 retirement fund. The member may pay all or part of the cost of the annuity purchase with an eligible transfer from a qualified retirement plan. This option is actuarially neutral and would not increase the cost of the plan.

8. Supporting Information

Appendix A – RCWs
- RCW 41.50.088
- RCW 41.32.067

Appendix B – WAC 415-02-340

Appendix C – Bill Draft

Appendix D – Draft Fiscal Note-OSA

Appendix A

RCW 41.50.088
Employee retirement benefits board -- Duties.

(1) The board shall adopt rules as necessary and exercise the following powers and duties:

   (a) The board shall recommend to the state investment board types of options for member self-directed investment in the teachers' retirement system plan 3, the school employees' retirement system plan 3, and the public employees' retirement system plan 3 as deemed by the board to be reflective of the members' preferences;

   (b) By July 1, 2005, the board shall make optional actuarially equivalent life annuity benefit payment schedules available to members and survivors that may be purchased from the combined plan 2 and plan 3 funds under RCW 41.50.075; and

   (c) Determination of the basis for administrative charges to the self-directed investment fund to offset self-directed account expenses;

   (2) The board shall recommend to the state investment board types of options for participant self-directed investment in the state deferred compensation plan, as deemed by the board to be reflective of the participants' preferences.

[2000 c 247 § 602. Prior: 1998 c 341 § 507; 1998 c 116 § 10; 1995 c 239 § 302.]

NOTES:

   Effective dates -- Subchapter headings not law -- 2000 c 247: See RCW 41.40.931 and 41.40.932.

   Effective date -- 1998 c 341: See note following RCW 41.34.060.

   Intent -- Purpose -- 1995 c 239: See note following RCW 41.32.831.

   Effective date -- Part and subchapter headings not law -- 1995 c 239: See notes following RCW 41.32.005.

Benefits not contractual right until date specified: RCW 41.34.100.

RCW 41.32.067
Purchase of additional benefits -- Conditions.

A member may purchase additional benefits subject to the following:

(1) The member shall pay all reasonable administrative and clerical costs; and

(2) The member shall make a member reserve contribution to be actuarially converted to a monthly benefit at the time of retirement.

[1992 c 212 § 13; 1991 c 278 § 2.]

Appendix B

WAC 415-02-340
Monthly benefit per $1.00 of accumulation for defined benefit plans.

(1) How does the department use the information in the table called "monthly benefit per $1.00 of accumulation for defined benefit plans"? The department uses this information to:
   (a) Determine what a future lifetime monthly benefit is worth in present-day dollars;
   (b) Determine the equivalent value of a lump sum when compared with monthly payments; and
   (c) Reduce the monthly retirement benefit in TRS Plan 1 if you take a lump sum cash out for some or all of your funds.[2]
   (2) What type of information is in this table? The information in this table reflects the expected duration of lifetime payments for recipients over a range of ages. These values differ by system and plan, and all reflect an assumed rate of return of 8.0%.[3]
   (3) Examples
   (a) Example (a):
   Celina is a 65-year-old PERS Plan 2 member who is eligible to receive $45.00 per month. She wants to know how much money she could receive if she accepted a lump sum payment instead. Celina looks at the row in the table for age 65 in the PERS Plan 2 column and learns that $0.0072458 per month for life is equivalent to one dollar in cash for this system, plan, and age class. Celina divides $45.00 by 0.0072458 and learns that her lump sum payment would be $6,210.49.
   (b) Example (b):
   Fred is a 58-year-old TRS Plan 1 member. The balance in Fred's account is $124,934.00. Upon retirement, Fred chooses to withdraw the $124,934.00 (as only members of TRS Plan 1 can do). From the row in the table for age 58 in the TRS Plan 1 column, Fred learns that $0.0077573 per month for life is the equivalent to one dollar in cash for this system, plan, and age class. Fred multiplies the lump sum cash-out amount of $124,934.00 by 0.0077573, and learns that his monthly retirement will be reduced by $969.15 per month because of the lump sum cash out made at retirement.
   (4) Table - Monthly benefit per $1.00 of accumulation for defined benefit plans:
   Based on the 1995-2000 actuarial experience study monthly benefit per $1.00 of accumulation defined benefit (DB) single life pension:

Age	LEOFF 1	LEOFF 2	PERS 1	PERS 2/3	SERS 2/3	TRS 1	TRS 2/3	WSPRS 2
20	0.0039835	0.0043310	0.0065444	0.0043102	0.0042786	0.0065267	0.0042774	0.0043319
21	0.0039997	0.0043459	0.0065518	0.0043243	0.0042911	0.0065329	0.0042897	0.0043469
22	0.0040168	0.0043615	0.0065598	0.0043390	0.0043042	0.0065396	0.0043027	0.0043626
23	0.0040347	0.0043780	0.0065684	0.0043546	0.0043181	0.0065468	0.0043165	0.0043791
24	0.0040535	0.0043955	0.0065778	0.0043710	0.0043327	0.0065546	0.0043309	0.0043966

[2] This option is only available in TRS Plan 1.
[3] The younger a person is, the longer the anticipated lifetime of payments would be, and the greater the sum required to provide for these payments. Put another way, the amount of monthly lifetime benefit that a present-day dollar buys goes up as the remaining life expectancy of the recipient goes down.

Age	LEOFF 1	LEOFF 2	PERS 1	PERS 2/3	SERS 2/3	TRS 1	TRS 2/3	WSPRS 2
25	0.0040734	0.0044139	0.0065878	0.0043884	0.0043481	0.0065630	0.0043462	0.0044150
26	0.0040943	0.0044333	0.0065987	0.0044067	0.0043644	0.0065720	0.0043622	0.0044346
27	0.0041163	0.0044539	0.0066105	0.0044261	0.0043816	0.0065818	0.0043792	0.0044552
28	0.0041396	0.0044757	0.0066232	0.0044466	0.0043997	0.0065924	0.0043971	0.0044771
29	0.0041641	0.0044988	0.0066370	0.0044682	0.0044189	0.0066038	0.0044161	0.0045002
30	0.0041899	0.0045231	0.0066517	0.0044911	0.0044391	0.0066162	0.0044361	0.0045246
31	0.0042171	0.0045488	0.0066676	0.0045152	0.0044605	0.0066295	0.0044572	0.0045503
32	0.0042456	0.0045758	0.0066845	0.0045405	0.0044830	0.0066438	0.0044795	0.0045774
33	0.0042755	0.0046042	0.0067025	0.0045672	0.0045067	0.0066592	0.0045031	0.0046059
34	0.0043069	0.0046340	0.0067217	0.0045952	0.0045316	0.0066756	0.0045278	0.0046358
35	0.0043398	0.0046654	0.0067421	0.0046247	0.0045578	0.0066930	0.0045539	0.0046672
36	0.0043745	0.0046984	0.0067639	0.0046558	0.0045854	0.0067116	0.0045812	0.0047004
37	0.0044109	0.0047333	0.0067873	0.0046886	0.0046145	0.0067315	0.0046101	0.0047353
38	0.0044494	0.0047701	0.0068123	0.0047233	0.0046452	0.0067527	0.0046404	0.0047723
39	0.0044900	0.0048091	0.0068393	0.0047600	0.0046777	0.0067754	0.0046725	0.0048114
40	0.0045330	0.0048505	0.0068682	0.0047988	0.0047120	0.0067998	0.0047065	0.0048529
41	0.0045784	0.0048944	0.0068994	0.0048400	0.0047483	0.0068261	0.0047423	0.0048969
42	0.0046266	0.0049409	0.0069329	0.0048837	0.0047868	0.0068543	0.0047803	0.0049436
43	0.0046777	0.0049904	0.0069690	0.0049300	0.0048275	0.0068846	0.0048206	0.0049932
44	0.0047319	0.0050430	0.0070078	0.0049791	0.0048706	0.0069172	0.0048632	0.0050460
45	0.0047894	0.0050989	0.0070495	0.0050312	0.0049163	0.0069523	0.0049084	0.0051021
46	0.0048504	0.0051584	0.0070945	0.0050866	0.0049647	0.0069900	0.0049562	0.0051617
47	0.0049153	0.0052218	0.0071429	0.0051455	0.0050161	0.0070305	0.0050070	0.0052253
48	0.0049844	0.0052894	0.0071953	0.0052082	0.0050707	0.0070740	0.0050609	0.0052932
49	0.0050581	0.0053617	0.0072519	0.0052752	0.0051287	0.0071210	0.0051183	0.0053657
50	0.0051368	0.0054390	0.0073132	0.0053466	0.0051905	0.0071717	0.0051793	0.0054432
51	0.0052210	0.0055218	0.0073796	0.0054231	0.0052564	0.0072265	0.0052444	0.0055264
52	0.0053104	0.0056098	0.0074510	0.0055044	0.0053265	0.0072858	0.0053139	0.0056147
53	0.0054060	0.0057042	0.0075283	0.0055914	0.0054014	0.0073500	0.0053881	0.0057094
54	0.0055084	0.0058054	0.0076121	0.0056846	0.0054813	0.0074191	0.0054671	0.0058110
55	0.0056182	0.0059141	0.0077029	0.0057845	0.0055668	0.0074939	0.0055515	0.0059201
56	0.0057354	0.0060302	0.0078008	0.0058912	0.0056581	0.0075749	0.0056420	0.0060367
57	0.0058601	0.0061539	0.0079058	0.0060049	0.0057557	0.0076627	0.0057388	0.0061608
58	0.0059937	0.0062865	0.0080192	0.0061265	0.0058600	0.0077573	0.0058422	0.0062940
59	0.0061368	0.0064287	0.0081415	0.0062566	0.0059712	0.0078589	0.0059524	0.0064368
60	0.0062900	0.0065812	0.0082732	0.0063959	0.0060901	0.0079685	0.0060703	0.0065898
61	0.0064540	0.0067444	0.0084149	0.0065448	0.0062172	0.0080866	0.0061963	0.0067538
62	0.0066294	0.0069191	0.0085668	0.0067036	0.0063529	0.0082138	0.0063311	0.0069292
63	0.0068167	0.0071058	0.0087294	0.0068729	0.0064976	0.0083506	0.0064751	0.0071168
64	0.0070165	0.0073050	0.0089030	0.0070531	0.0066517	0.0084970	0.0066285	0.0073169
65	0.0072307	0.0075186	0.0090893	0.0072458	0.0068158	0.0086537	0.0067919	0.0075315
66	0.0074600	0.0077474	0.0092891	0.0074517	0.0069903	0.0088208	0.0069657	0.0077614
67	0.0077052	0.0079921	0.0095028	0.0076715	0.0071765	0.0090000	0.0071514	0.0080073
68	0.0079692	0.0082556	0.0097332	0.0079076	0.0073755	0.0091921	0.0073497	0.0082721
69	0.0082539	0.0085400	0.0099823	0.0081620	0.0075879	0.0093974	0.0075612	0.0085580
70	0.0085622	0.0088479	0.0102523	0.0084366	0.0078162	0.0096186	0.0077883	0.0088676
71	0.0088938	0.0091793	0.0105419	0.0087308	0.0080615	0.0098577	0.0080327	0.0092008
72	0.0092539	0.0095393	0.0108558	0.0090487	0.0083261	0.0101166	0.0082964	0.0095628

Age	LEOFF 1	LEOFF 2	PERS 1	PERS 2/3	SERS 2/3	TRS 1	TRS 2/3	WSPRS 2
73	0.0096446	0.0099300	0.0111955	0.0093919	0.0086093	0.0103939	0.0085784	0.0099559
74	0.0100684	0.0103538	0.0115628	0.0097624	0.0089142	0.0106939	0.0088826	0.0103824
75	0.0105280	0.0108135	0.0119604	0.0101627	0.0092422	0.0110180	0.0092104	0.0108451
76	0.0110267	0.0113124	0.0123914	0.0105960	0.0095951	0.0113678	0.0095637	0.0113472
77	0.0115688	0.0118547	0.0128599	0.0110662	0.0099757	0.0117460	0.0099450	0.0118933
78	0.0121597	0.0124460	0.0133705	0.0115778	0.0103875	0.0121558	0.0103575	0.0124885
79	0.0128051	0.0130919	0.0139278	0.0121352	0.0108344	0.0126012	0.0108049	0.0131389
80	0.0135111	0.0137984	0.0145368	0.0127433	0.0113202	0.0130863	0.0112914	0.0138505
81	0.0142843	0.0145725	0.0152030	0.0134074	0.0118492	0.0136157	0.0118211	0.0146303
82	0.0151240	0.0154130	0.0159279	0.0141293	0.0124242	0.0141938	0.0123986	0.0154769
83	0.0160353	0.0163252	0.0167162	0.0149136	0.0130497	0.0148256	0.0130286	0.0163958
84	0.0170241	0.0173149	0.0175726	0.0157650	0.0137302	0.0155137	0.0137139	0.0173927
85	0.0180966	0.0183884	0.0185016	0.0166876	0.0144701	0.0162628	0.0144589	0.0184740
86	0.0192583	0.0195513	0.0195059	0.0176841	0.0152736	0.0170771	0.0152680	0.0196456
87	0.0205119	0.0208062	0.0205851	0.0187541	0.0161432	0.0179605	0.0161446	0.0209102
88	0.0218550	0.0221507	0.0217347	0.0198932	0.0170791	0.0189147	0.0170905	0.0222656
89	0.0232781	0.0235752	0.0229444	0.0210916	0.0180779	0.0199388	0.0181048	0.0237021
90	0.0247625	0.0250609	0.0241977	0.0223336	0.0191323	0.0210275	0.0191823	0.0252008
91	0.0262789	0.0265782	0.0254717	0.0235975	0.0202301	0.0221705	0.0203134	0.0267317
92	0.0278427	0.0281429	0.0267640	0.0248804	0.0213620	0.0233525	0.0214834	0.0283116
93	0.0294384	0.0297392	0.0280581	0.0261661	0.0225126	0.0245532	0.0226729	0.0299249
94	0.0310505	0.0313517	0.0293389	0.0274402	0.0236656	0.0257646	0.0238739	0.0315562
95	0.0326651	0.0329665	0.0305940	0.0286908	0.0248057	0.0269704	0.0250708	0.0331914
96	0.0342704	0.0345719	0.0318149	0.0299099	0.0259197	0.0281559	0.0262493	0.0348186
97	0.0358572	0.0361585	0.0329987	0.0310951	0.0269980	0.0293096	0.0273986	0.0364281
98	0.0374173	0.0377185	0.0341503	0.0322517	0.0280348	0.0304239	0.0285118	0.0380114
99	0.0389423	0.0392433	0.0352857	0.0333956	0.0290309	0.0314979	0.0295884	0.0395582

[Statutory Authority: RCW 41.50.050(5) and chapter 41.45 RCW. 02-18-048, § 415-02-340, filed 8/28/02, effective 9/1/02.]

Appendix C

Annuity Purchase – Bill Draft

NEW SECTION. **Sec. 1.** A new section is added to chapter 41.26 RCW under the subchapter heading "plan 2" to read as follows:

(1)The department of retirement systems shall make optional actuarially equivalent life annuity benefit payment schedules available to members and survivors that may be purchased from the Washington law enforcement officers' and fire fighters' system plan 2 retirement fund.

Appendix D – Draft Fiscal Note-OSA

DRAFT
ACTUARY'S FISCAL NOTE

RESPONDING AGENCY:	CODE:	DATE:	PROPOSAL [NAME or Z-NUMBER]:
Office of the State Actuary	**035**	**12/07/09**	**LEOFF 2 Annuity Purchase**

WHAT THE READER SHOULD KNOW

The Office of the State Actuary ("we") prepared this draft fiscal note based on our understanding of the proposal as of the date shown above. We intend this draft fiscal note to be used by the Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 2 Board throughout the 2009 Interim only. If a legislator introduces this proposal as a bill during the next Legislative Session, we will prepare a final fiscal note based on that bill language. The actuarial results shown in this draft fiscal note may change when we prepare our final version for the Legislature.

We advise readers of this draft fiscal note to seek professional guidance as to its content and interpretation, and not to rely upon this communication without such guidance. Please read the analysis shown in this draft fiscal note as a whole. Distribution of, or reliance on, only parts of this draft fiscal note could result in its misuse, and may mislead others.

SUMMARY OF RESULTS

This proposal would authorize the Department of Retirement Systems (DRS) to provide optional actuarially equivalent annuity purchases from the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 retirement fund to LEOFF Plan 2 members and survivors.

This proposal does not impact the expected actuarial funding of the system. Please see the body of this draft fiscal note for a detailed explanation.

WHAT IS THE PROPOSED CHANGE?

Summary Of Change

This proposal impacts the LEOFF Plan 2 by authorizing DRS to provide optional actuarially equivalent annuity purchases from the LEOFF Plan 2 retirement fund to LEOFF Plan 2 members and survivors. The proposal allows members to purchase annuities prior to retirement. DRS would develop the life annuity benefit schedules no later than December 31, 2010.

Assumed Effective Date: 90 days after session.

What Is The Current Situation?

Plan 3 members may purchase a similar annuity with contributions invested in the Total Allocation Portfolio of the Washington State Investment Board (WSIB) investment program, but only at the time of retirement. LEOFF Plan 2 members may purchase up to five years of additional service by paying the full actuarial value of the service at the time of retirement.

Who Is Impacted And How?

We estimate this proposal could affect all 16,626 active members of LEOFF Plan 2 with the option of improved benefits.

We estimate this proposal will increase the benefits for a typical member by providing the option to annuitize their retirement savings. Annuitizing their money provides a member security against outliving their assets. In addition, the annuity offered to them through DRS will cost far less than an annuity bought from a private insurer. A private insurer calculates annuities based on a lower interest rate to account for risk and profit.

For example, a private insurer will provide the annuity based on an interest rate of about 4 percent, whereas DRS will provide the annuity based on an interest rate of about 8 percent. For a member age 55 buying a $10,000 life annuity, this would mean they would pay a private company about $165,000, whereas they would pay DRS about $110,000.

WHY THIS PROPOSAL DOES NOT HAVE A COST

Why This Proposal Does Not Have A Cost

This proposal does not have an expected cost because the member is paying the full actuarial value.

Who Will Pay For These Costs/Savings If They Arise?

The member will pay the actuarially equivalent value of the annuity.

However, as the experience of the system emerges, if the payment is more or less than the actual value of the annuity, then LEOFF Plan 2 contribution rates will increase or decrease accordingly.

HOW WE VALUED THESE COSTS

Assumptions We Made

We assumed that the payments made by the members will equal the full actuarial value of the annuity. We would need to make several assumptions to determine the purchase price of the annuity:

- Expected rate of investment return.
- Expected rate of mortality for the annuitant.
- The annuity start date – the member's retirement date (if purchased prior to retirement).

As with any actuarial calculation that involves estimating future events, actual experience may differ from the underlying assumptions made. When actual experience differs from what we assumed would occur, the system experiences an actuarial gain or loss. An actuarial gain would decrease plan liabilities (or increase assets); whereas, an actuarial loss would increase plan liabilities (or decrease assets). Therefore, we cannot say with certainty that this proposal will not impact plan liabilities in the future.

If the members who purchase annuities, on average, live shorter/longer than assumed, the system will experience actuarial gains/losses in the future. If the actual rate of investment return is more/less than the assumed rate, the system will experience actuarial gains/losses from this assumption as well. For these two assumptions, we will not know whether a gain or loss has occurred until DRS has made all payments under the annuity contract.

The assumed annuity start date, or member's retirement date, will also produce a source of actuarial gain or loss for members who purchase annuities prior to their retirement date. For this particular assumption, we can determine whether an actuarial gain or loss has occurred at the time of retirement. DRS may have the option to adjust the purchase price or adjust the annuity amount (a "true up") at the time of retirement to eliminate this source of gain/loss. Without such an adjustment, the potential for significant actuarial gain/loss, on an individual member basis, exists for this particular assumption.

Otherwise, we developed these costs using the same assumptions as disclosed in the 2008 Actuarial Valuation Report.

HOW THE RESULTS CHANGE WHEN THE ASSUMPTIONS CHANGE

To determine the sensitivity of the actuarial results to the best-estimate assumptions selected for this pricing we varied the following assumptions:

- **Mortality rate** – We determined the cost to the system if the annuity amount was calculated based on higher mortality rates than what actually occurs over time (people lived longer than assumed). For this sensitivity we used 100 percent of scale AA mortality improvement rather than the assumed 50 percent.
- **Investment returns** – We determined the cost to the system if the annuity amount was calculated based on a higher investment returns than what actually occurs over time (investments pay less than assumed). For this sensitivity we used a 7.5 percent investment return rather than the assumed 8 percent.
- **Annuity start date** – We determined the cost to the system if the annuity amount was calculated based on a later retirement date than what actually occurs over time (people start collecting the annuity earlier than assumed). For this sensitivity we used a start age of 53 rather than an assumed age of 55.
- **All of the above** – We determined the cost to the system if all three of the assumptions are incorrect, as described above, at the same time.

The table below shows the expected results versus the four sensitivity runs outlined above. The example outlines the impact due to one member currently age 40 who purchases an annuity with $100,000. When all three occur at once, the liability is larger than the sum of each of the three individually because of the interaction of these assumptions.

| Sensitivity Example – 40-Year-Old Male Purchases Retirement Annuity With $100,000			
Scenario	Cash Paid From Member To Plan	Present Value of Plan Annuity	Cost to the System
1) Expected	$100,000	$100,000	$0
2) Lower Mortality Than Expected	$100,000	$102,549	$2,549
3) Lower Asset Returns Than Expected	$100,000	$112,980	$12,980
4) Earlier Retirement Age Than Expected	$100,000	$120,794	$20,794
5) Scenarios 2, 3, and 4	$100,000	$138,777	$38,777

Assumes annuity calculation based on 3% COLA, and 90%/10% male/female mortality blend.

ACTUARY'S CERTIFICATION

The undersigned hereby certifies that:

1. The actuarial cost methods are appropriate for the purposes of this pricing exercise.
2. The actuarial assumptions used are appropriate for the purposes of this pricing exercise.
3. The data on which this draft fiscal note is based are sufficient and reliable for the purposes of this pricing exercise.
4. Use of another set of methods and assumptions may also be reasonable, and might produce different results.
5. This draft fiscal note has been prepared for the Law Enforcement Officers' and Fire Fighters' Retirement System Plan 2 Board.
6. This draft fiscal note has been prepared, and opinions given, in accordance with Washington State law and accepted actuarial standards of practice as of the date shown on page one of this draft fiscal note.

This draft fiscal note is a preliminary actuarial communication and the results shown may change. While this draft fiscal note is meant to be complete, the undersigned is available to provide extra advice and explanations as needed.
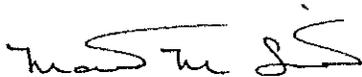
Matthew M. Smith, FCA, EA, MAAA
State Actuary

GLOSSARY OF ACTUARIAL TERMS

Actuarial Accrued Liability: Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the present value of fully projected benefits attributable to service credit that has been earned (or accrued) as of the valuation date.

Actuarial Present Value: The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions (i.e. interest rate, rate of salary increases, mortality, etc.).

Aggregate Funding Method: The Aggregate Funding Method is a standard actuarial funding method. The annual cost of benefits under the Aggregate Method is equal to the normal cost. The method does not produce an unfunded liability. The normal cost is determined for the entire group rather than on an individual basis.

Entry Age Normal Cost Method (EANC): The EANC method is a standard actuarial funding method. The annual cost of benefits under EANC is comprised of two components:

- Normal cost.
- Amortization of the unfunded liability.

The normal cost is determined on an individual basis, from a member's age at plan entry, and is designed to be a level percentage of pay throughout a member's career.

Normal Cost: Computed differently under different funding methods, the normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year.

Projected Unit Credit (PUC) Liability: The portion of the Actuarial Present Value of future benefits attributable to service credit that has been earned to date (past service).

Projected Benefits: Pension benefit amounts which are expected to be paid in the future taking into account such items as the effect of advancement in age as well as past and anticipated future compensation and service credits.

Unfunded PUC Liability: The excess, if any, of the Present Value of Benefits calculated under the PUC cost method over the Valuation Assets. This is the portion of all benefits earned to date that are not covered by plan assets.

Unfunded Actuarial Accrued Liability (UAAL): The excess, if any, of the actuarial accrued liability over the actuarial value of assets. In other words, the present value of benefits earned to date that are not covered by plan assets.