

Appendix 1

Short History of PBCG Interest Rates

Year	Rate 1	Rate 2	PV*
2003	5.50%	5.25%	\$ 250,200
2004	4.20%	5.00%	\$ 312,100
2005	4.10%	4.75%	\$ 320,200
2006	5.70%	4.75%	\$ 246,400
2007	4.88%	4.55%	\$ 283,600
2008	5.42%	4.99%	\$ 255,700
2009	6.02%	5.48%	\$ 228,400
2010	4.89%	4.63%	\$ 282,300
2011	4.07%	3.93%	\$ 331,900
2012	3.74%	3.70%	\$ 353,900
2013	2.67%	3.01%	\$ 436,800
Today	2.50%	3.20%	\$ 446,100

*PV of 2500 per month payable at age 65
for male currently age 55 - with 2% cola

Appendix 2

2. System Benefits

PERS benefit component comparisons

The primary components and differences among the PERS Tier One and Tier Two programs, the Oregon Public Service Retirement Plan (OPSRP) Pension Program, and the Individual Account Program (IAP) are shown below. Tier One covers members hired before January 1, 1996; Tier Two covers members hired between January 1, 1996 and August 28, 2003; and OPSRP covers members hired on or after August 29, 2003. The IAP contains all member contributions (6% of covered salary) made on and after January 1, 2004.

	Tier One	Tier Two	OPSRP Pension	IAP
Normal retirement age	58 (or 30 yrs) P&F = age 55 or 50 w/25 yrs	60 (or 30 yrs) P&F = age 55 or 50 w/25 yrs	65 (58 w/30 yrs) P&F = age 60 or 53 w/25 yrs	55
Early retirement	55 (50 for P&F)	55 (50 for P&F)	55, if vested (50 for P&F)	55
Regular account earnings	Guaranteed assumed rate annually (currently 8%)	No guarantee; market returns	N/A; no member account	No guarantee; market returns
Variable account earnings	Market returns on 100% global equity portfolio	Market returns on 100% global equity portfolio	N/A; no member account	N/A
Retirement calculation methods	Money Match, Full Formula, or Formula + Annuity (if eligible)	Money Match or Full Formula	Formula	Six account distribution options
Full Formula benefit factor	1.67% general; 2.00% P&F	1.67% general; 2.00% P&F	1.50% general; 1.80% P&F	N/A
Formula + Annuity benefit factor	1.00% general; 1.35% P&F	N/A	N/A	N/A
Oregon state income tax remedy	If eligible, higher of 9.89% on service time before Oct. 1, 1991 or 4.0% or less based on total service time	No tax remedy provided	No tax remedy provided	No tax remedy provided
Lump-sum vacation payout				
Included in covered salary (6%)	Yes	Yes	No	Yes for Tier One and Tier Two; no for OPSRP
Included in FAS	Yes	No	No	N/A
Unused sick leave included in FAS	Yes	Yes	No	N/A
Vesting	Contributions in each of 5 yrs or active member at age 50	Contributions in each of 5 yrs or active member at age 50	5 yrs qualifying service or normal retirement age	Immediate
2% maximum annual cost-of-living adjustments after retirement	Can retire through July 1 and receive maximum COLA for the year	Can retire through July 1 and receive maximum COLA for the year	COLA prorated in year of retirement based on retirement date	N/A

P&F = police and firefighters; FAS = final average salary; COLA = cost-of-living adjustment; N/A = not applicable

Note: PERS uses three methods to calculate Tier One and Tier Two retirement benefits: Full Formula, Formula + Annuity (for members who made contributions before August 21, 1981), and Money Match. PERS uses the method (for which a member is eligible) that produces the highest benefit amount. OPSRP Pension benefits are based only on a formula method.

Appendix 3

[CLIENT NAME] - Present Value of Benefit Calculation

Inputs:	
Mortality	1994 UP Male / Scale AA Male (2023) 1994 UP Female / Scale AA Female (2023)
Participant Gender	M
Interest for first 20 years	2.50%
Interest thereafter	3.20%
First n Years	20
Val Date	5/1/2013
DOB	10/1/1975
Monthly life annuity benefit	\$1,000.00
Retirement Age	65
Normal Retirement Date	N/A
COLA	2.00%
Certain period	0
Inputs for Coverture Fraction:	
Date of Marriage	1/1/1995
Date of Dissolution	5/1/2013
Date of Hire	1/1/1990
Date of Termination	1/1/2000
Total Benefit Service	10.00

Calculation:	
Attained Age	37.58082192
Retirement Age (calculated)	65
Normal Retirement Date (calculated)	10/1/2040
Life Annuity Function	max function 12.90632541 Dx functions 2303520111 3895885201
Adjusted max function	7.631123251
Coverture Fraction:	
Married Service	5.00
Total Service	10.00

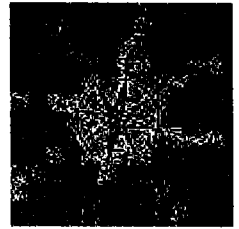
Outputs:	
Final Life annuity factor	7.631123251
Present value of benefit at 5/01/2013	\$ 91,573.48
Coverture Fraction	50.00%
Marital Portion of present value at 5/01/2013	\$ 45,786.74

Appendix 4

Northwest Actuarial Consulting, LLC

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Electronic Delivery Only

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April 8, 2013

Symposium Attorney
Family Law Practice, LLP
111 Main Street
Portland, OR 97205

Re: Value of Barbara L. Smith's Oregon PERS Tier I Retirement Benefit

Dear Symposium Attorney:

At your request, I have made a determination of the present value of the retirement benefits Ms. Barbara L. Smith has earned under the Oregon Public Employee Retirement System (PERS). It is my opinion based on the information, assumptions, and methodology described below, that as the lump sum present value of Ms. Smith's pension benefit and the portion of the present value earned during the time of marriage is approximately:

	<u>Total Value</u>	<u>Marital Portion</u>
Assuming retirement at age 58	\$705,500	\$442,300
Assuming retirement at age 65	\$595,800	\$373,500

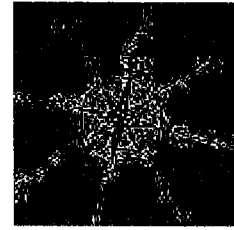
Information Provided

Barbara Smith

- Date of birth: October 29, 1958
- PERS membership date: March 1, 1987 (Tier I)
- Member Account Balance December 31, 2011: \$140,545
- Date of marriage: June 12, 1993

Methodology and Assumptions

- Valuation Date: April 1, 2013
- Ms. Smith is expected to be a Tier 1 money match retiree.
- For purposes of determining Ms. Smith's monthly money match benefit, it is assumed her Member Regular Account Balance will earn 8.0% interest, the current interest rate for crediting Tier 1 Member regular accounts.
- Age 58 is the Normal Retirement Age for Tier 1 retirees. Age 65 is a common age at which individuals retire since it is the age at which they qualify for Medicare benefits.



Symposium Attorney

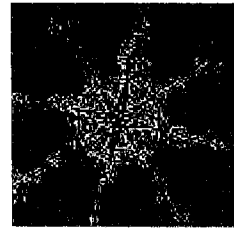
April 8, 2013

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- A small portion (about \$9300) of Ms. Smith's Member Account is invested in the variable account. It is assumed the variable account will also earn 8.0% interest between now and retirement.
- Ms. Smith has a normal life expectancy for an American female her age. The mortality table used in the calculations was the 1994 GAM Basic female table projected with Scale AA.
- The interest assumptions used in discounting future payments are 2.50% for the first 20 years and 3.20% thereafter. These rates are the rates used by the Pension Benefit Guaranty Corporation for valuing pension benefits. They reflect an average of rates used by insurance companies throughout the United States and are adjusted quarterly.
- Benefits payable under PERS are subject to annual cost of living increases. The assumed cost of living increase rate is 2.0% per year.
- The determination of the present value takes into account the probability of Ms. Smith's death each year throughout her potential lifetime.
- The marital portion of the present value was determined using the time rule which applies the ratio of the benefit service earned during the time or marriage to the total service time over which the benefit was earned to determine the marital portion. For a money match retiree such as Ms. Smith, benefit accruals ceased at the end of 2003. Therefore, her total service time over which her benefit was earned was her service from March 1, 1987 through December 31, 2003, resulting in a marital portion of 62.69%.

If you have any questions or require any additional information, please feel free to contact me.

Please note that this determination of present value does not reflect value of Ms. Smith's IAP account in the PERS System. The value of her IAP, which is simply the reported market value as of a given date, would be in addition to the present value of her Tier 1 benefit reported in this letter. The reported value of her IAP account as of December 31, 2011 was \$30,271. Since that date, her account may have been credited with additional contributions and investment gains or losses.



Symposium Attorney
April 8, 2013
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Important Caveat: The above determination of present value reflects generally accepted actuarial practice and the current terms of and benefits provided by Oregon PERS. There is legislation proposed and under consideration by the Oregon Legislature that would impact PERS benefits. In accordance with actuarial standards of practice, this valuation reflects current PERS benefits, not any of the potential, but yet unknown possible changes to PERS.

Statement of Qualifications: I, Alan J. Stonewall, am a Member of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

Alan J. Stonewall, FSPA, MAAA, EA

e-mail: alan@northwestactuarialconsulting.com

Appendix 5

Question

Your client's spouse, age 50, is entitled to \$3,000 per month from Oregon PERS when she retires. What is the present value of her pension benefit?

- a. *\$724,000*
- b. *\$428,000*
- c. *\$479,500*
- d. *Could Be Any of the Above*

Answer

As we hope you have learned from today's discussion, the correct answer is d, because:

- a. *Would be the value of her benefit at retirement age 58 if she is were full formula retiree*
- b. *Would be the value of her benefit at retirement age 66 if she were a full formula retiree*
- c. *Would be the value of her benefit at retirement age 58 if she were a money match retiree*