RETIREMENT PLAN FOR EMPLOYEES OF JOB SERVICE NORTH DAKOTA

ACTUARIAL VALUATION AND REVIEW AS OF JULY 1, 2014

Segal Consulting

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Founded in 1939

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November 14, 2014

Board Members
North Dakota Public Employees Retirement System
Bismarck, North Dakota

Members of the Board:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2014 for the Retirement Plan for Employees of Job Service North Dakota. It summarizes the actuarial data used in the valuation, establishes the "scheduled contribution" for the 2014-2015 plan year, and analyzes the preceding year's experience.

The census and financial information on which our calculations are based were provided by the Retirement Office staff. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Tammy F. Dixon, FSA, MAAA, EA.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Certain assumptions, including interest rates, mortality tables and others identified in this report are prescribed by the Board and, in our opinion, are reasonably related to the experience of and the expectations for the Plan. The Board is also responsible for selecting the scheduled contribution, actuarial cost method and asset valuation method.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We would be pleased to answer any questions you may have regarding the report.

Sincerely,

Brad Ramirez, FSA, MAAA, FCA, EA
Vice President & Consulting Actuary

Tammy F. Dixon, FSA, MAAA, EA
Vice President & Actuary

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cc: Sparb Collins

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Introduction and Summary

This report presents the results of the actuarial valuation of the Retirement Plan for Employees of Job Service North Dakota as of July 1, 2014.

The following table is a summary of significant results of this year's valuation compared with the results of the last valuation.

Valuation Results	July 1, 2014	July 1, 2013
Scheduled contribution at end of year	$0	$0
Contribution as a percentage of payroll	0.00%	0.00%
Projected payroll of employees included in cost calculations	$790,649	$842,601
Outstanding balance of frozen initial liability	$0	$0
Amortization of frozen initial liability	$0	$0
Normal cost	$0	$0
Actuarial present value of projected benefits	$65,479,120	$66,444,929
Actuarial value of assets	$78,157,302	$76,325,451
Market value of assets	$97,696,628	$90,378,957

Effective July 1, 1999, the “scheduled contribution” will be zero as long as the plan’s actuarial value of assets exceeds the actuarial present value of projected benefits. If, in the future, the liabilities of the plan exceed its assets, a “scheduled contribution” will be determined based on the funding policy adopted by the Board.

As of July 1, 2014, the market value of assets is 149.2% of the actuarial present value of projected benefits. While there is no contribution due at this time, the Board should be prepared to consider funding policy options in the event that there are actuarial losses in the future. The measurements in this valuation are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan’s benefit obligation.

Since the Plan is overfunded on a market value basis, the Board may wish to consider asset strategies to immunize the liabilities in order to reduce the risk of future contributions being required.

There were no changes to the plan provisions since the prior valuation.

The actuarial valuation report as of July 1, 2014 is based on financial and demographic information as of that date. Changes subsequent to that date are not reflected and could affect future actuarial costs of the Plan. We are prepared to work with the Board to analyze the effects of any subsequent developments.

The Governmental Accounting Standards Boards (GASB) recently approved two new Statements. Statement 67 replaces Statement 25 and governs plan reporting. Statement 68 replaces Statement 27 and governs employer reporting. It is important to note that the new GASB rules only redefine liabilities and pension expense for financial reporting purposes, and do not apply to contribution amounts for funding purposes. These statements are applicable for preparing the 2013/2014 fiscal year financial statements for the Plan and for the 2014/2015 fiscal year financial statements for contributing employers. The employer has elected to continue use of Statement 27 for employer reporting for the 2014/2015 fiscal year. The information required by GASB Statement 67 will be provided in a separate report.

Valuation Results

The valuation was made with respect to the following data supplied to us by the Retirement Office staff.

1.	Employees active as of July 1, 2014	
	a. Fully vested	13
	b. Not vested	0
	c. Total	13
2.	Employees inactive as of July 1, 2014 with vested rights	1
3.	Pensioners (including disableds), one former spouse, and beneficiaries as of July 1, 2014	140
4.	Pensioners and beneficiaries receiving annuities from The Travelers as of July 1, 2014	73
5.	Total Plan participants as of July 1, 2014	227

The actuarial liabilities as of the valuation date are as follows:

1.	Present value of benefits:	
	a. Active employees	$7,628,751
	b. Inactive vested employees not in pay status	10,986
	c. Pensioners (including disableds) and beneficiaries*	57,839,383
	d. Total	$65,479,120
2.	Actuarial value of assets ($97,696,628 at market value)	78,157,302
3.	Outstanding balance as of July 1, 2014 of frozen initial liability	0
4.	Actuarial present value of future normal costs (item 1 – item 2 – item 3, not less than $0)	$0
5.	Actuarial present value of future salaries	$2,854,953
6.	Normal cost percentage (item 4 divided by item 5)	0.00%
7.	Projected payroll of employees included in cost calculations	$790,649
8.	Normal cost (item 6 x item 7)	$0

* *Includes value of Cost-of-Living adjustments (COLAs) for pensioners with annuities from The Travelers.*

Actuarial Experience

Since July 1, 2013, there was a net actuarial gain, primarily due to a demographic gain of $1.8 million as a result of a lower than expected cost-of-living adjustment and salary increases lower than expected. An analysis of experience in key areas for the year ended June 30, 2014 follows.

Mortality Experience

Mortality experience (fewer or more than expected deaths) yields actuarial gains or losses. The actual number of deaths was 6 (4 Travelers annuitants and 2 Non-Travelers pensioners) compared to expected deaths of 9.5 (6.3 Travelers annuitants and 3.2 Non-Travelers pensioners). The mortality experience resulted in an actuarial loss.

Retirement Experience

Retirement experience (later or earlier than expected) yields actuarial gains or losses. Our analysis of actual retirements indicate more than expected number of active and inactive vested participants have been retiring. The number of actual retirements was 4.0 compared to fewer than 1 expected retirement, resulting in an actuarial loss.

Salary Increases

The average salary increase for participants as of July 1, 2014 who were included in the last valuation was 4.6% compared to the 5.0% salary scale assumption. The result is an actuarial gain.

Post-Retirement Cost-of-Living Adjustment (COLA)

There was a COLA increase of 1.5% granted to retirees and beneficiaries compared to the 5.0% COLA assumption. The result is an actuarial gain.

Rate of Return

The investment rate of return on an actuarial basis was 8.65% for the year ended June 30, 2014, net of both investment and administrative expenses (8.60% net of investment expenses). This return is slightly higher than the assumed rate of return of 8.0%, resulting in a small actuarial gain. The rate of return on a market value basis was 13.49%, net of both investment and administrative expenses (13.46% net of investment expenses).

Table 1 summarizes demographic characteristics of plan participants.

Table 2 presents a distribution of active participants by age and credited service.

Table 3 presents a reconciliation of participant data.

Table 4 summarizes the changes in plan net assets.

Table 5 summarizes the plan assets on a market basis.

Table 6 shows the determination of the actuarial value of assets.

Table 7 shows the development of the NPO and ARC pursuant to GASB 27.

Table 8 shows a Schedule of Funding Progress required by the GASB.

TABLE 1

Plan Coverage and Selected Data
This Year and Preceding Year

Category	July 1, 2014	July 1, 2013	Percent Change
Active participants:			
Number	13	15	(13.3)%
Average age	60.4	59.3	N/A
Average service	37.6	36.5	N/A
Projected compensation	$790,649	$842,601	(6.2)
Average pay	$60,819	$56,173	8.3
Inactive participants with rights to immediate or deferred pension	1	3	(66.7)
Pensioners (including disableds) and beneficiaries:			
Number paid by retirement plan	140	137	2.2
Total annual benefits	$3,963,150	$3,763,970	5.2
Average annual benefit	$28,308	$27,474	(3.0)
Number of Travelers annuitants	73	76	(3.9)
Total annual benefits paid by retirement plan (COLAs)	$662,727	$647,806	2.3
Average annual benefit paid by retirement plan (COLAs)	$9,078	$8,524	6.5

TABLE 2

Active Employees Included in the July 1, 2014 Valuation by Age and Credited Service

		Years of Credited Service				
Age	**Total**	**0 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40 and Over**
Total	13	-	-	1	10	2
50 – 54	1	-	-	-	1	-
55 – 59	6	-	-	-	5	1
60 & over	6	-	-	1	4	1

TABLE 3

Reconciliation of Participant Data

	Active Participants	Inactive Vested Participants	Pay Status Participants Paid From Plan Assets	Pay Status Participants Paid From The Travelers	Total
Number as of July 1, 2013	15	3	137	76	231
Vested Termination	0	0	0	0	0
Retirements	(2)	(2)	4	0	0
New Beneficiaries	0	0	1	0	1
Certain period expired	0	0	0	0	0
New QDRO	0	0	0	0	0
Died with beneficiary	0	0	(1)	0	(1)
Died without beneficiary	0	0	0	(4)	(4)
Lump sum payouts	0	0	(1)	0	(1)
Data adjustments	0	0	0	1	1
Number as of July 1, 2014	13	1	140	73	227

TABLE 4

Summary Statement of Income and Disbursements (Market Value)

		July 1, 2014	July 1, 2013
1.	Additions:		
	Contributions	$55,748	$72,174
	Investment Income:		
	Interest and Dividends	$1,725,637	$2,248,708
	Net Appreciation/(Depreciation)	10,466,656	7,978,316
	Total Investment Income	$12,192,293	$10,227,024
	Less Investment Expenses	(304,453)	(242,783)
	Net Investment Income	$11,887,840	$9,984,241
	Total Additions	$11,943,588	$10,056,415
2.	Deductions:		
	Benefit Payments	$(4,594,462)	$(4,353,984)
	Administrative Expenses	(31,455)	(30,014)
	Total Deductions	$(4,625,917)	$(4,383,998)
3.	Net Increase	$7,317,617	$5,672,417
4.	Net Assets		
	(a) Beginning of Year	$90,378,957	$84,706,540
	(b) End of Year	$97,696,628	$90,378,957

TABLE 5

Summary Statement of Plan Net Assets (Market Value)

		July 1, 2014	July 1, 2013
1.	Assets:		
	Cash and Cash Equivalents	$404,257	$619,676
	Receivables:		
	Contributions	$4,393	$5,499
	Interest	96,697	45,896
	Due from fiduciary funds	596	123
	Total Receivables	$101,686	$51,518
	Investments:		
	Equities	$38,686,267	$36,368,800
	Fixed Income	58,655,436	53,427,026
	Total Investments	$97,341,703	$89,795,826
	Total Assets	$97,847,646	$90,467,020
2.	Liabilities:		
	Accounts Payable	$(148,693)	$(88,063)
	Due to Fiduciary Funds	(2,325)	0
	Total Liabilities	$(151,018)	$(88,063)
3.	Net Assets for Pension Benefits	$97,696,628	$90,378,957

TABLE 6

Determination of the Actuarial Value of Assets as of July 1, 2014

1.	Actuarial Value of Assets as of July 1, 2013	$76,325,421
2.	Contributions	$55,748
3.	Decreases During the Year:	
	Benefit Payments	$(4,594,462)
	Administrative Expenses	(31,455)
	Investment Expenses	(304,453)
	Total Decreases During the Year	$(4,930,370)
4.	Interest and Dividends	$1,725,637
5.	Preliminary Actuarial Value at End of Year [(1) + (2) + (3) + (4)]	$73,176,466
6.	Market Value at End of Year	$97,696,628
7.	Adjustment Toward Market Value (20% of [(6) – (5)])	$4,904,032
8.	Adjustment to be Within 20% of Market Value	$76,804
9.	Actuarial Value of Assets as of July 1, 2014 [(5) + (7) + (8)]	$78,157,302
10.	Actuarial Value as a Percentage of Market Value [(9) / (6)]	80.0%

TABLE 7

Development of the Net Pension Obligation (NPO) and the Annual Required Contribution (ARC) Pursuant to GASB 27

Year Ended	Employer Annual Required Contribution (a)	Employer Amount Contributed (b)	Interest on NPO (h) x 7.5%* (c)	ARC Adjustment (h) / (e) (d)	Amortization Factor* (e)	Pension Cost (a) + (c) – (d) (f)	Change in NPO (f) – (b) (g)	NPO Balance NPO + (g) (h)
06/30/2006	-	-	$(133,186)	$(136,928)	12.1584	$3,742	$3,742	$(1,661,084)
06/30/2007	-	-	(124,581)	(130,833)	12.6962	6,252	6,252	(1,654,832)
06/30/2008	-	-	(124,112)	(130,341)	12.6962	6,229	6,229	(1,648,603)
06/30/2009	-	-	(123,645)	(129,850)	12.6962	6,205	6,205	(1,642,398)
06/30/2010	-	-	(123,180)	(129,361)	12.6962	6,181	6,181	(1,636,217)
06/30/2011	-	-	(122,716)	(128,875)	12.6962	6,159	6,159	(1,630,058)
06/30/2012	-	-	(122,254)	(128,389)	12.6962	6,135	6,135	(1,623,923)
06/30/2013	-	-	(121,794)	(127,906)	12.6962	6,112	6,112	(1,617,811)
06/30/2014	-	-	(129,425)	(133,061)	12.1584	3,636	3,636	(1,614,175)

**Based on 8% interest through June 30, 2006, 7.5% for 2007-2012, and 8% beginning July 1, 2013. Amortization period is 30 years open with level dollar payments.*

TABLE 8

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) – (a)	Funded Ratio (a) / (b)	Projected Compensation (c)	UAAL as a Percentage of Covered Payroll** [(b) – (a)] / (c)
07/01/2007	$75,749,846	$70,740,512	$(5,009,334)	107.08%	$1,843,140	0.0%
07/01/2008	77,020,934	70,804,863	(6,216,071)	108.78%	1,762,644	0.0%
07/01/2009	74,472,806	71,105,891	(3,366,915)	104.74%	1,709,424	0.0%
07/01/2010	73,458,863	70,094,204	(3,364,659)	104.80%	1,611,216	0.0%
07/01/2011	74,190,381	67,444,219	(6,746,162)	110.00%	1,200,792	0.0%
07/01/2012	75,117,973	71,402,002	(3,715,971)	105.20%	1,042,957	0.0%
07/01/2013	76,325,451	66,049,664	(10,275,787)	115.56%	842,601	0.0%
07/01/2014	78,157,302	65,190,192	(12,967,110)	119.89%	790,649	0.0%

* *Starting in 2007, the funded ratio is required to be calculated using liabilities determined under the entry age normal cost method.*

** *Not less than zero.*

Actuarial Methods and Actuarial Assumptions

Actuarial Cost Method

There are a variety of funding methods that are considered acceptable by the actuarial profession. The Frozen Initial Liability Actuarial Cost Method is the method currently used for the Retirement Plan for Employees of Job Service North Dakota.

The “annual contribution” under this method is the normal cost plus the payment required to amortize the unfunded initial actuarial accrued liability over a selected period of years. The normal cost is determined by calculating the total value of all future benefits, subtracting the outstanding balance (if any) of the unfunded initial actuarial accrued liability, subtracting the actuarial value of assets, and determining payments (not less than zero) that are a level percent of pay over the future working lifetime of all participants. In the absence of an unfunded initial actuarial accrued liability, the Frozen Initial Liability Actuarial Cost Method is the same as the Aggregate Cost Method.

The “scheduled contribution” will be determined when the plan is not in surplus and will be based on a funding policy adopted by the Employer.

Asset Valuation Method

The asset value indicates the portion of the benefits already funded. The method used to determine this value is called the actuarial asset valuation method. The actuarial asset valuation method is as follows:

Adjusted market value that immediately recognizes interest and dividends. The procedure recognizes 20% of each year’s total appreciation (depreciation) beginning with the year of occurrence. After five years, the appreciation (depreciation) is fully recognized. A characteristic of this asset valuation method is that, over time, it is more likely than not to produce an actuarial value of assets that is less than the market value of assets, if the investment return attributable to net interest and dividends is less than the assumed rate of return.

Actuarial Assumptions

1. **Mortality Tables:**

Healthy: 1994 Group Annuity Mortality Table (sample rates below).

Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table.

These tables reasonably reflect the mortality experience of the Plan as of the measurement date. No provision was made for future mortality improvement after the measurement date. These assumptions are prescribed by the Board.

2. **Disability Incidence Rates:**

Sample rates shown below.

3. **Withdrawal Rates:**

Sample rates shown below.

	Rates (%)			
	Mortality			
Age	Male	Female	Disability	Withdrawal
20	0.05	0.03	0.06	5.44
25	0.07	0.03	0.09	5.29
30	0.08	0.04	0.11	5.07
35	0.09	0.05	0.15	4.70
40	0.11	0.07	0.22	4.19
45	0.16	0.10	0.36	3.54
50	0.26	0.14	0.61	2.48
55	0.44	0.23	1.01	0.94
60	0.80	0.44	1.63	0.09

Withdrawal rates end when first eligible for the earlier of optional or normal retirement.

4. **Retirement Rates:**

75% of active participants are assumed to retire when first eligible for optional retirement, and the remaining participants retire at normal retirement. If currently older than first eligible optional retirement age, retirement is assumed to occur at normal retirement, or current age, if older.

100% of inactive vested participants are assumed to retire at first optional retirement age.

Actuarial Assumptions (Continued)

5. **Interest Rate:**

   8.0% per year, compounded annually, net of investment and administrative expenses.

6. **Salary Scale:**

   5.0% per year.

7. **Post-retirement Cost-of-Living Adjustment:**

   5.0% per year.

8. **Future Benefit Accruals:**

   One year of credited service per year per active employee included in the valuation.

9. **Percent Married and Age of Spouse:**

   85% of all active and inactive vested participants are assumed to be married. Females are assumed to be four years younger than males.

10. **Benefit Election:**

    All participants are assumed to elect the 10 year Certain and Life Annuity.

Changes in Actuarial Assumptions or Cost Method

There were no changes in actuarial assumptions or cost method.

Summary of Plan Provisions

This section summarizes the major provisions of the plan as included in the valuation. It is not intended to be, nor should it be, interpreted as a complete description of all plan provisions.

Plan status: Frozen to new entrants as of October 1, 1980.

1. Normal Retirement:

Age requirement:

65.

Service requirement:

None.

Benefit:

Average monthly earnings multiplied by the sum of:

a. 1.50% times credited service up to five years, plus
b. 1.75% times credited service between six and ten years, plus
c. 2.00% times credited service in excess of ten years.

Average monthly earnings - monthly average earnings during the highest three consecutive years of employment.

2. Optional Retirement:

Age and service requirements:

Age 62 with five years of credited service, or
Age 60 with twenty years of credited service, or
Age 55 with thirty years of credited service.

Benefit:

Accrued normal retirement benefit.

3. Early Retirement:

Age requirement:

Ten years before normal or optional retirement age.

Service requirement:

Same as optional retirement.

Benefit:

Accrued normal retirement benefit, reduced if payments begin before normal or optional retirement.

4. **Disability Benefit:**

Age requirement:

None.

Service requirement:

Five years of credited service.

Benefit**:**

Greater of accrued normal retirement benefit or 40% of average monthly earnings.

5. **Deferred Vested Retirement:**

Age requirement:

None.

Service requirement:

Five years of credited service.

Benefit:

Accrued normal retirement benefit payable at normal or optional retirement. After attainment of early retirement age, reduced benefits may be paid.

Employees who meet the requirements for a vested benefit may elect to receive a return of their accumulated employee contributions (including interest at 4% per year) in lieu of all other benefits under the plan.

6. **Pre-retirement Death Benefits:**

(a) Married participants or single participants with eligible children

Surviving spouse's benefit:

Age requirement:

None.

Service requirement:

None.

Benefit:

55% of the greater of (a) or (b).

(a) Accrued normal retirement benefit.

(b) The lesser of (1) or (2).

(1) 40% of average monthly earnings.

(2) Normal retirement benefit based on credited service to age 60.

Children's benefit:

Provided for children under age 18 (age 22 if a full-time student) - note: the actuarial valuation does not consider benefits for expected surviving children.

(b) Single participants with no eligible children

120 payment guarantee:

Age requirement:

None.

Service requirement:

Five years of credited service.

Benefit:

Accrued normal retirement benefit payable for 120 months. Not payable if surviving spouse or children's benefit is payable.

(c) Lump sum benefit

Age requirement:

None.

Service requirement:

None.

Benefit:

Accumulated employee contributions (including interest at 4% per year). Not payable if the surviving spouse, children's benefit or 120 payment guarantee is in effect.

7. **Refund of Member Contributions:**

Employees who do not meet the requirements for a vested benefit will receive a return of their accumulated employee contributions (including interest at 4% per year).

8. **Post-retirement Death Benefits:**

Based on form of payment elected by the pensioner.

9. **Post-retirement Cost-of-Living Adjustment:**

Based on the Consumer Price Index as approved by the Board.

10. **Participation:**

Plan participant before October 1, 1980.

11. **Credited Service:**

Monthly salaried employment in a probationary or permanent status including only: service for which contributions were made (including purchased service), eligible military service and unused sick leave.

12. **Contribution Rate:**

Employee:

7% of average monthly earnings (4% picked up by employer).

Employer:

Remaining scheduled contribution, if any.

13. **Normal and Optional Forms of Payment:**

Single Life Annuity with 120 month guarantee (Normal);
Single Life Annuity with 180 month guarantee;
Single Life Annuity with 240 month guarantee;
55% Contingent Annuitant Option;
75% Contingent Annuitant Option;
100% Contingent Annuitant Option;
Uniform Income Option.

Changes in Plan Provisions

There were no changes made in the plan provisions since the prior valuation.