

**RETIREMENT PLAN FOR EMPLOYEES  
OF JOB SERVICE NORTH DAKOTA**

**Actuarial Valuation Report as of July 1, 2009**

DRAFT

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October 15, 2009

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

Members of the Board:

We are pleased to submit our report on the actuarial valuation of the Retirement Plan for Employees of Job Service North Dakota as of July 1, 2009. The report includes an analysis of last year's actuarial experience as well as the contribution requirements for the year beginning July 1, 2009.

The census information on which our calculations are based and the financial information were provided by the Retirement Office staff. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary.

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. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

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, EA  
Consulting Actuary

John W. Monroe, ASA, MAAA, EA  
Vice President and Associate Actuary

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## I. 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, 2009.

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

<u>Valuation Results</u>	<u>July 1, 2009</u>	<u>July 1, 2008</u>
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	\$1,487,175	\$1,612,533
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	\$72,043,372	\$71,828,872
Actuarial value of assets	\$74,472,806	77,020,934
Market value of assets	\$72,155,658	89,913,883

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 Employer.

As of July 1, 2009, the actuarial present value of projected benefits is virtually the same as the market value of assets. While there is no contribution due at this time, the Employer should be prepared to consider funding policy options in the event that there are actuarial losses in the future.

The actuarial valuation report as of July 1, 2009 is based on financial data as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

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

## II. 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, 2009, with total projected compensation of \$1,709,424.	
a.	Fully vested	35
b.	Not vested	<u>0</u>
c.	Total	35
2.	Employees inactive as of July 1, 2009 with vested rights	4
3.	Pensioners (including disableds) and beneficiaries as of July 1, 2009	120
4.	Pensioners and beneficiaries receiving annuities from The Travelers as of July 1, 2009	<u>94</u>
5.	Total Plan participants as of July 1, 2009	253

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

1.	Actuarial present value of benefits:	
a.	Active employees	\$16,465,832
b.	Inactive vested employees not in pay status	227,716
c.	Pensioners (including disableds) and beneficiaries*	<u>55,349,824</u>
d.	Total	\$72,043,372
2.	Actuarial value of assets (\$72,155,658 at market value)	74,472,806
3.	Outstanding balance as of July 1, 2009 of frozen initial liability	<u>0</u>
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	\$7,087,394
6.	Normal cost percentage (item 4 divided by item 5)	0.00%
7.	Projected payroll of employees included in cost calculations	\$1,487,175
8.	Normal cost (item 6 x item 7)	<u>\$0</u>

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

There have been no changes in assumptions since the previous valuation. The benefit provisions are the same as those in the preceding valuation.

### **Actuarial Experience**

Since July 1, 2008, there was a net actuarial loss which is comprised of a demographic gain of \$1.4 million and an asset loss of \$4.5 million. An analysis of experience in key areas for the year ended June 30, 2009 follows.

### **Salary Increases**

The average salary increase for participants as of July 1, 2009 who were included in the last valuation was 5.75% compared to the 5.0% salary scale assumption. The result is an actuarial loss.

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

Effective December 1, 2008, a 5.8% COLA was granted to retirees and beneficiaries compared to the 5.0% COLA assumption. The result is an actuarial loss.

### **Rate of Return**

The investment rate of return on an actuarial basis was approximately 1.45% for the year ended June 30, 2009. This return is lower than the assumed rate of return of 7.5%, resulting in an actuarial loss. The rate of return on a market value basis was -16.03%.

Table 1 summarizes demographic characteristics for 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 is a summary of 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**

<b>Category</b>	<b>July 1, 2009</b>	<b>July 1, 2008</b>	<b>Percent Change</b>
Active participants:			
Number	35	38	(7.9)%
Average age	57.3	56.4	1.6
Average service	33.4	32.6	2.5
Projected Compensation	\$1,709,424	\$1,762,644	(3.0)
Average pay	\$48,841	\$46,385	5.3
Inactive participants with rights to immediate or deferred pension	4	4	0
Pensioners (including disableds) and beneficiaries:			
Number paid by retirement plan	120	118	1.7
Total annual benefits	\$3,176,263	\$2,987,764	6.3
Average annual benefit	\$26,469	\$25,320	4.5
Number of Travelers annuitants	94	98	(4.1)
Total annual benefits from plan (COLAs)	\$652,446	\$567,246	15.0
Average annual benefit from plan (COLAs)	\$6,941	\$5,880	18.0

**Table 2**

**Active Employees Included in the  
July 1, 2009 Valuation by Age and Credited Service**

<b>Age</b>	<b>Total</b>	<b>Years of Credited Service</b>			
		<b>0 – 24</b>	<b>25 - 29</b>	<b>30 - 34</b>	<b>35 and Over</b>
<b>Total</b>	35	-	3	26	6
<b>45 – 49</b>	1	-	-	1	-
<b>50 – 54</b>	8	-	-	6	2
<b>55 – 59</b>	18	-	3	13	2
<b>60 &amp; over</b>	8	-	-	6	2

**Table 3****Reconciliation of Participant Data**

	<b>Active Participants</b>	<b>Vested Former Participants</b>	<b>Pay Status Participants Paid From Plan Assets</b>	<b>Pay Status Participants Paid From The Travelers</b>	<b>Total</b>
Number as of July 1, 2008	38	4	118	98	258
Retirements	(3)	0	3	0	1
Beneficiaries	0	0	1	0	1
Certain period expired	0	0	0	(1)	(1)
Died with beneficiary	0	0	(1)	0	(1)
Died without beneficiary	<u>0</u>	<u>0</u>	<u>(1)</u>	<u>(3)</u>	<u>(5)</u>
Number as of July 1, 2009	35	4	120	94	253

**Table 4****Statement of Changes in Plan Net Assets (Market Value)**

	<b>July 1, 2009</b>	<b>July 1, 2008</b>
<b>1. Additions</b>		
(a) Contributions	\$119,115	\$123,718
(b) Investment Income		
(i) Interest and Dividends	\$1,998,050	\$2,133,511
(ii) Net Appreciation/(Depreciation)	(15,799,734)	(2,847,451)
(iii) Net Securities Lending Income	<u>10,350</u>	<u>26,176</u>
(iv) Total Investment Income	\$(13,791,334)	\$(687,764)
(v) Less Investment Expenses	<u>(301,287)</u>	<u>(622,355)</u>
(vi) Net Investment Income	\$(14,092,621)	\$(1,310,119)
(c) Repurchase Service Credit	\$0	\$0
(d) Total Additions	\$(13,973,506)	\$(1,186,401)
<b>2. Deductions</b>		
(a) Benefit Payments	\$(3,759,618)	\$(3,564,811)
(b) Administrative Expenses	<u>(25,101)</u>	<u>(22,212)</u>
(c) Total Deductions	\$(3,784,719)	\$(3,587,023)
<b>3. Net Increase</b>	\$(17,758,225)	\$(4,773,424)
<b>4. Net Assets Held in Trust for Pension Benefits</b>		
(a) Beginning of Year	<b>\$89,913,883</b>	<b>\$94,687,307</b>
(b) End of Year	<b>\$72,155,658</b>	<b>\$89,913,883</b>

**Table 5**

**Statement of Plan Net Assets**

	<b>July 1, 2009</b>	<b>July 1, 2008</b>
<b>1. Assets</b>		
(a) Cash and Cash Equivalents	\$19,619	\$113,833
(b) Receivables		
(i) Contributions	\$9,452	\$9,887
(ii) Interest	190,846	230,971
(iii) Due from Fiduciary Funds	<u>0</u>	<u>0</u>
(iv) Total Receivables	\$200,298	\$240,858
(c) Investments, At Fair Value		
(i) Equities	\$23,375,481	\$33,461,205
(ii) Fixed Income	48,647,686	56,211,468
(iii) Securities Lending Collateral (SIB)	<u>373,560</u>	<u>2,781,230</u>
(iv) Total Investments	\$72,396,727	\$92,453,903
(d) Total Assets	\$72,616,644	\$92,808,594
<b>2. Liabilities</b>		
(a) Accounts Payable	\$(75,118)	\$(99,563)
(b) Due to Fiduciary Funds	(8,555)	(9,737)
(c) Due to Proprietary Funds	(3,753)	(4,181)
(d) Due to Other State Agencies	0	0
(e) Securities Lending Collateral (SIB)	<u>(373,560)</u>	<u>(2,781,230)</u>
(f) Total Liabilities	\$(460,986)	\$(2,894,711)
<b>3. Net Assets for Pension Benefits</b>	<b>\$72,155,658</b>	<b>\$89,913,883</b>

**Table 6****Determination of the Actuarial Value of Assets as of July 1, 2009**

1.	Actuarial Value of Assets as of July 1, 2008	\$77,020,934
2.	Increases During the Year	
	(a) Contributions	\$119,115
3.	Decreases During the Year	
	(a) Benefit Payments	\$(3,759,618)
	(b) Administrative Expenses	(25,101)
	(c) Investment Expenses	<u>(301,287)</u>
	(d) Total Decreases During the Year	\$(4,086,006)
4.	Actual Return – Interest and Dividends	\$1,998,050
5.	Preliminary Actuarial Value at End of Year [(1) + (2) + (3) + (4)]	\$75,052,093
6.	Market Value at End of Year	\$72,155,658
7.	Adjustment Toward Market Value (20% of [(6) – (5)])	\$(579,287)
8.	Adjustment to be Within 20% of Market Value	\$0
9.	Actuarial Value of Assets as of July 1, 2009 [(5) + (7) + (8)]	\$74,472,806
10.	Actuarial Value as a Percentage of Market Value [(9) / (6)]	103.2%

**Table 7****Development of the Net Pension Obligation (NPO) and the Annual Required Contribution (ARC) Pursuant to GASB 27**

<b>Year Ended</b>	<b>Employer Annual Required Contribution (a)</b>	<b>Employer Amount Contributed (b)</b>	<b>Interest on NPO (h) x 7.5% (c)</b>	<b>ARC Adjustment (h) / (e) (d)</b>	<b>Amortization Factor* (e)</b>	<b>Pension Cost (a) + (c) – (d) (f)</b>	<b>Change in NPO (f) – (b) (g)</b>	<b>NPO Balance NPO + (g) (h)</b>
06/30/2004	-	-	\$(133,787)	\$(137,546)	12.1584	\$3,759	\$3,759	\$(1,668,576)
06/30/2005	-	-	(133,486)	(137,236)	12.1584	3,750	3,750	(1,664,826)
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)

\* Interest is 8% through June 30, 2006 and 7.5% thereafter. Amortization period is 30 years with level dollar payments.

**Table 8****Supplementary Information Required by the GASB – Schedule of Funding Progress**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded/ (Overfunded) AAL (UAAL) (b) – (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Projected Compensation (c)</b>	<b>UAAL as a Percentage of Covered Payroll** [(b) – (a)] / (c)</b>
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%

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

\*\* Not less than zero.

### **III. ACTUARIAL METHODS AND ACTUARIAL ASSUMPTIONS**

#### **Actuarial Cost Method**

There is a wide range of funding methods that are considered acceptable by the actuarial profession, which are recognized by accountants, and that meet government standards. 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:

The asset value is adjusted toward market value by adding to the “preliminary asset value”, 20% of the difference between the market value and the preliminary asset value. The preliminary asset value is the actuarial asset value at the beginning of the year plus net new money. Net new money is the sum of contributions, dividends, and interest, less the sum of benefit payments, administrative expenses and investment fees. If necessary, the actuarial value is further adjusted to be within 20% of market value. A characteristic of this asset valuation method is that, over time, it is more likely to produce an actuarial value of assets that is less than the market value of assets.

## Actuarial Assumptions

### **Mortality tables:**

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

Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table.

**Disability incidence:** Sample rates shown below.

**Withdrawal rates:** Sample rates shown below.

<u>Age</u>	<u>Rates (%)</u>			
	<u>Mortality</u>		<u>Disability Incidence</u>	<u>Withdrawal</u>
	<u>Male</u>	<u>Female</u>		
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.

### **Retirement age:**

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)**

**Salary scale:** 5.0% per year.

**Post-retirement  
cost-of-living adjustment:** 5.0% per year.

**Percent married:** 85% of all active and inactive vested participants are assumed to be married.

**Age of spouse:** Females are assumed to be four years younger than males.

**Rate of return:** 7.5% per year, compounded annually, net of investment and administrative expenses.

**Future benefit accruals:** One year of credited service per year per active employee included in the valuation.

#### IV. 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.

##### 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.

##### 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.

##### 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.

## **Disability**

Age requirement:	None.
Service requirement:	Five years of credited service.
Benefit:	Greater of accrued normal retirement benefit or 40% of average monthly earnings.

## **Vesting**

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.

## **Return of accumulated employee 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).

## **Pre-retirement death benefits**

### Married participants

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.

### 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.

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.

**Post-retirement death benefits** Based on form of payment elected by the pensioner.

**Post-retirement cost-of-living adjustment** Based on the Consumer Price Index.

**Participation** Plan participant before October 1, 1980.

**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.

**Contribution rate** Employee: 7% of average monthly earnings (4% picked up by employer).  
Employer: remaining scheduled contribution, if any.

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