

North Dakota Teachers' Fund for Retirement

**Governmental Accounting Standards Board (GASB)
Statement Nos. 67 and 68
Actuarial Valuation as of July 1, 2015**





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November 23, 2015

Board of Trustees

North Dakota Teachers' Fund for Retirement

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Bismarck, ND 58507-7100

Dear Trustees:

We are pleased to submit the following report intended to be used for satisfying certain reporting requirements by Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 as of June 30, 2015.

This report was prepared in accordance with generally accepted actuarial principles and practices. The census and financial information on which our calculations were based was supplied by the staff of the Retirement and Investment Office. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Matthew Strom, FSA, MAAA, Enrolled Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

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. To the best of our knowledge, the information supplied in the 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 expectations for the Fund.

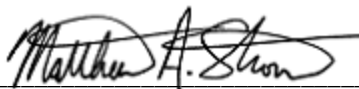
We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: 

*Kim Nicholl, FSA, EA, MAAA
Senior Vice President and Actuary*



*Matthew A. Strom, FSA, EA, MAAA
Vice President and Actuary*

SECTION 1

VALUATION SUMMARY

Purpose	i
Significant Issues in Valuation Year.....	i
Summary of Key Valuation Results.....	iii

SECTION 2

GASB 67 AND 68 INFORMATION

EXHIBIT 1 Membership Data.....	1
EXHIBIT 2 Net Pension Liability	2
EXHIBIT 3 Schedule of Changes in Net Pension Liability	5
EXHIBIT 4 Schedule of Employer Contributions	6

SECTION 3

ADDITIONAL INFORMATION FOR GASB 68

EXHIBIT A Reconciliation of Collective Net Pension Liability	8
EXHIBIT B Collective Deferred Outflows of Resources and Deferred Inflows of Resources.....	9
EXHIBIT C Collective Pension Expense.....	11
EXHIBIT D Schedule of Employer Allocations	13
EXHIBIT E Schedule of Pension Amounts by Employer.....	17

SECTION 1: Valuation Summary for the North Dakota Teachers' Fund for Retirement

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 as of June 30, 2015. This valuation is based on:

- The benefit provisions of the Fund, as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of July 1, 2015;
- The assets of the Fund as of June 30, 2015;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The Governmental Accounting Standards Board (GASB) approved two Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 was effective with the fiscal year ending June 30, 2014, for Plan reporting. Statement 68 was effective with the fiscal year ending June 30, 2015, for employer reporting. The information contained in this valuation is intended to be used (along with other information) in order to comply with both Statements 67 and 68.
- It is important to note that the GASB rules only redefine pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Plans can still develop and adopt funding policies under current practices.
- When measuring pension liability for GASB purposes, the same actuarial cost method (Entry Age method) is used to determine the funded status of the Plan, the actuarially determined contribution rate, and the effective amortization period. In addition, the GASB blended discount rate calculation results in the same discount rate (expected return on assets) as used for funding purposes. This means that the total pension liability (TPL) measure for financial reporting shown in this report is determined on the same basis as the actuarial accrued liability (AAL) measure for funding.

SECTION 1: Valuation Summary for the North Dakota Teachers' Fund for Retirement

- The net pension liability (NPL) is equal to the difference between the TPL and the plan fiduciary net position. The plan fiduciary net position is equal to the market value of assets and therefore, the NPL measure is very similar to an unfunded actuarial accrued liability (UAAL) on a market value basis. The NPL increased from \$1.05 billion as of June 30, 2014, to \$1.31 billion as of June 30, 2015. Changes in these values during the prior fiscal year ending June 30, 2015, can be found in Exhibit 3.
- Effective June 30, 2015, the Board adopted several assumption changes, including the following:
 - Long-term investment return assumption lowered from 8.00% to 7.75%.
 - Inflation assumption lowered from 3.00% to 2.75%.
 - Total salary scale rates lowered by 0.25% due to lower inflation.
 - Added an explicit administrative expense assumption, equal to prior year administrative expenses plus inflation.
 - Rates of turnover and retirement were changed to better reflect anticipated future experience.
 - Updated the mortality assumption to the “RP-2014” mortality tables with generational improvement.The net impact of the assumption changes was an increase in the TPL of \$171.3 million.
- As a result of the assumption changes that were adopted by the Board, the discount rate used to determine the TPL and NPL was decreased from 8.00% as of June 30, 2014 to 7.75% as of June 30, 2015. Various information that is required to be disclosed can be found throughout Section 2 and Section 3.

SECTION 1: Valuation Summary for the North Dakota Teachers' Fund for Retirement

Summary of Key Valuation Results

	2015	2014
Disclosure elements for fiscal year ending June 30:		
Service cost	\$60,617,900	\$56,751,722
Total pension liability	3,449,775,982	3,138,799,773
Plan fiduciary net position	2,141,920,800	2,090,977,056*
Net pension liability	1,307,855,182	1,047,822,717
Plan fiduciary net position as a percentage of total pension liability	62.1%	66.6%
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	\$71,167,632	\$59,513,485
Actual contributions	78,422,098	62,355,146
Contribution deficiency (excess)	(7,254,466)	(2,841,661)
Demographic data as of July 1:		
Number of retirees and beneficiaries	8,025	7,747
Number of inactive vested members	1,607	1,509
Number of inactive non-vested members	660	661
Number of active members	10,514	10,305
Key assumptions:		
Discount rate	7.75%	8.00%
Inflation rate	2.75%	3.00%
Projected salary increases	4.25% to 14.50%, varying by service	4.50% to 14.75%, varying by service
Investment rate of return	7.75%	8.00%

* The Plan fiduciary net position as of June 30, 2014, was restated by (\$561,999) due to GASB 68 Implementation. The restated amount is \$2,090,415,057.

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

EXHIBIT 1

Membership Data

	July 1, 2015	July 1, 2014
Retired members and beneficiaries	8,025	7,747
Vested inactive members	1,607	1,509
Non-vested inactive members	660	661
Active members:		
Vested	7,369	7,406
Non-vested	<u>3,145</u>	<u>2,899</u>
Total active members	10,514	10,305
Total membership	20,806	20,222

Active Membership By Plan Eligibility

	July 1, 2015	July 1, 2014
Tier 1 Grandfathered	2,869	3,240
Tier 1 Non-grandfathered	3,312	3,395
Tier 2	<u>4,333</u>	<u>3,670</u>
Total active membership	10,514	10,305

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

EXHIBIT 2

Net Pension Liability

	June 30, 2015	June 30, 2014
The components of the net pension liability are as follows:		
Total pension liability	\$3,449,775,982	\$3,138,799,773
Plan fiduciary net position	<u>(2,141,920,800)</u>	<u>(2,090,977,056)</u>
Net pension liability	\$1,307,855,182	\$1,047,822,717
Plan fiduciary net position as a percentage of the total pension liability	62.1%	66.6%

Plan provisions. The plan provisions used in the measurement of the net pension liability are the same as those used in the actuarial valuation as of July 1, 2015.

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of July 1, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	4.25% to 14.50%, varying by service, including inflation and productivity
Investment rate of return	7.75%, net of investment expenses
Cost-of-living adjustments	None

For active and inactive members, mortality rates were based on the RP-2014 Employee Mortality Table, projected generationally using Scale MP-2014. For healthy retirees, mortality rates were based on the RP-2014 Healthy Annuitant Mortality Table set back one year, multiplied by 50% for ages under 75 and grading up to 100% by age 80, projected generationally using Scale MP-2014. For disabled retirees, mortality rates were based on the RP-2014 Disabled Mortality Table set forward four years.

The actuarial assumptions used were based on the results of an experience study dated April 30, 2015. They are the same as the assumptions used in the July 1, 2015, funding actuarial valuation for TFFR.

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

The long-term expected investment rate of return assumption was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Fund's target asset allocation are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equities	57%	7.53%
Global Fixed Income	22%	1.28%
Global Real Assets	20%	5.38%
Cash Equivalents	<u>1%</u>	0.00%
Total	100%	

Discount rate: The discount rate used to measure the total pension liability was 7.75% as of June 30, 2015. The projection of cash flows used to determine the discount rate assumes that member and employer contributions will be made at rates equal to those based on the July 1, 2015, Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members as of June 30, 2015. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2015.

Supporting documentation for these projections can be provided upon request.

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability as of June 30, 2014, and June 30, 2015, calculated using the discount rate of 7.75% for 2015 (8.00% for 2014), as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75%/7.00%) or 1-percentage-point higher (8.75%/9.00%) than the current rate:

	1% Decrease	Current Discount Rate	1% Increase
Net pension liability as of June 30, 2014	\$1,414,755,083	\$1,047,822,717	\$739,221,908
Net pension liability as of June 30, 2015	\$1,728,392,470	\$1,307,855,182	\$957,135,967

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

EXHIBIT 3

Schedule of Changes in Net Pension Liability

	2015	2014
Total pension liability		
Service cost	\$60,617,900	\$56,751,722
Interest	249,063,837	237,820,894
Change of benefit terms	0	0
Differences between expected and actual experience	2,209,258	9,347,346
Changes of assumptions	171,324,647	0
Benefit payments, including refunds of employee contributions	<u>(172,239,433)</u>	<u>(162,259,276)</u>
Net change in total pension liability	\$310,976,209	\$141,660,686
Total pension liability – beginning	<u>3,138,799,773</u>	<u>2,997,139,087</u>
Total pension liability – ending (a)	<u>\$3,449,775,982</u>	<u>\$3,138,799,773</u>
Plan fiduciary net position		
Contributions – employer	\$78,422,098	\$62,355,146
Contributions – member	72,268,451	56,554,767
Contributions – purchased service credit	1,600,739	2,034,289
Contributions – other	172,474	47,766
Net investment income	73,204,806	294,246,449
Benefit payments, including refunds of employee contributions	(172,239,433)	(162,259,276)
Administrative expense	(1,923,392)	(1,586,045)
Restatement due to GASB implementation	<u>(561,999)</u>	<u>N/A</u>
Net change in plan fiduciary net position	\$50,943,744	\$251,393,096
Plan fiduciary net position – beginning	<u>2,090,977,056</u>	<u>1,839,583,960</u>
Plan fiduciary net position – ending (b)	<u>\$2,141,920,800</u>	<u>\$2,090,977,056</u>
Net pension liability – ending (a) – (b)	<u>\$1,307,855,182</u>	<u>\$1,047,822,717</u>
Plan fiduciary net position as a percentage of the total pension liability	62.1%	66.6%
Actual covered employee payroll	\$615,104,860	\$580,053,235
Plan net pension liability as percentage of covered employee payroll	212.6%	180.6%

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

EXHIBIT 4

Schedule of Employer Contributions

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Actual Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2013	\$52,396,153	\$59,300,720	\$(6,904,567)	\$551,655,590	10.75%
2014	59,513,485	62,355,146	(2,841,661)	580,053,235	10.75%
2015	71,167,632	78,422,098	(7,254,466)	615,104,860	12.75%

SECTION 2: GASB 67 and 68 Information for North Dakota Teachers' Fund for Retirement

Notes to Exhibit 4

Valuation date	Actuarially determined contribution rates are calculated as of June 30, with appropriate interest to the middle of the fiscal year.
Methods and assumptions used to establish actuarially determined contribution rates:	
Actuarial cost method	Entry Age Actuarial cost method
Amortization method	Level percentage of pay, closed
Remaining amortization period	28 years as of July 1, 2015. The amortization of unfunded actuarial accrued liability (UAAL) within the actuarially determined contribution rate calculation is based on the level percentage of pay required to amortize the UAAL over the 30-year closed period that began July 1, 2013. For this calculation, payroll is assumed to increase 3.25% per year.
Asset valuation method	The market value of assets with a five-year phase-in of actual return in excess of (or less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year).
Actuarial assumptions:	
Investment rate of return	7.75%, net of investment expenses
Inflation rate	2.75%
Projected salary increases	4.25% to 14.50%, varying by service, includes inflation and productivity
Mortality*	Post-retirement Non-Disabled: RP-2014 Healthy Annuitant Mortality Table set back one year, multiplied by 50% for ages under 75 and grading up to 100% by age 80, projected generationally using Scale MP-2014. Pre-retirement Non-Disabled: RP-2014 Employee Mortality Table, projected generationally using Scale MP-2014. Disabled: RP-2014 Disabled Mortality table set forward 4 years.
Other assumptions:	Same as those used in the July 1, 2015, and July 1, 2014, actuarial funding valuations.

* The mortality rates were based on historical and current demographic data, as used in the experience study dated April 30, 2015. The underlying tables reasonably reflect the mortality experience of the Fund as of the measurement date.

SECTION 3: Additional Information for GASB 68 for North Dakota Teachers' Fund for Retirement

Changes in the collective net pension liability from the beginning of the year to the end of the year arise from the net difference between changes in the total pension liability and plan fiduciary net position that occurred during the year. Changes in net pension liability will be recognized immediately as pension expense, or reported as deferred outflows of resources related to pensions or deferred inflows of resources related to pensions, depending on the nature of the change.

Differences between actual and expected investment-related experience are recognized over a closed five-year period. Differences between actual and expected non-investment-related experience and changes of assumptions are recognized over the average of the expected remaining service lives of all members who are provided with pensions through the pension plan (active employees and inactive employees). The amounts below that are not included in pension expense for the current year are included in deferred outflows of resources or deferred inflows of resources related to pensions.

EXHIBIT A

Reconciliation of Collective Net Pension Liability

	Increase/(Decrease) For Fiscal Year Ending June 30, 2015		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at beginning of year	\$3,138,799,773	\$2,090,977,056	\$1,047,822,717
Changes for the year			
Service cost	60,617,900		60,617,900
Interest	249,063,837		249,063,837
Differences between expected and actual experience	2,209,258		2,209,258
Contributions – employer		78,422,098	(78,422,098)
Contributions – member		72,268,451	(72,268,451)
Contributions – purchased service credit		1,600,739	(1,600,739)
Contributions – other		172,474	(172,474)
Net investment income		73,204,806	(73,204,806)
Benefit payments, including refunds of employee contributions	(172,239,433)	(172,239,433)	0
Administrative expense		(1,923,392)	1,923,392
Changes of assumptions	171,324,647		171,324,647
Change of benefit terms			0
Restatement of Plan Fiduciary Net Position	--	(561,999)	561,999
Net changes	<u>310,976,209</u>	<u>50,943,744</u>	<u>260,032,465</u>
Balances at end of year	<u>\$3,449,775,982</u>	<u>\$2,141,920,800</u>	<u>\$1,307,855,182</u>

SECTION 3: Additional Information for GASB 68 for North Dakota Teachers' Fund for Retirement

As shown in Exhibit A, during the plan year that ended June 30, 2015, the changes in net pension liability due to differences between expected and actual demographic experience and changes in actuarial assumptions are increases of \$2,209,258 and \$171,324,647, respectively. The average expected remaining service lives of all members is 7 years, determined as of July 1, 2014. Therefore, of the \$2,209,258 demographic loss and the loss of \$171,324,647 due to changes of assumptions, \$315,608 and \$24,474,950 are recognized in pension expense in the current year and \$1,893,650 and \$146,849,697 are reflected as a deferred outflow of resources related to pensions.

Based on the assumed investment return of 8.00%, the expected net investment income for the year was \$166,365,242. As shown in Exhibit A, the actual net investment income for the year was \$73,204,806. The difference between actual and expected investment experience is an increase in net pension liability of \$93,160,436, which is recognized over a 5-year period. Of this amount, \$18,632,087 is reflected in the current year and \$74,528,349 is reflected as a deferred outflow of resources related to pensions.

EXHIBIT B

Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

	Year Established	Original Balance	Original Amortization Period	Amortization Amount	Outstanding Balance at June 30, 2015
Outflows					
Demographic	2014	\$9,347,346	7 years	\$1,335,335	\$6,676,676
Demographic	2015	2,209,258	7 years	315,608	1,893,650
Assumptions	2015	171,324,647	7 years	24,474,950	146,849,697
Investment	2015	93,160,436	5 years	18,632,087	74,528,349
Total outflows				\$44,757,980	\$229,948,372
Inflows					
Investment	2014	\$148,793,866	5 years	\$29,758,773	\$89,276,320
Total inflows				\$29,758,773	\$89,276,320

SECTION 3: Additional Information for GASB 68 for North Dakota Teachers' Fund for Retirement

EXHIBIT B (continued)

Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$8,570,326	\$0
Changes of assumptions	146,849,697	0
Net difference between projected and actual earnings on pension plan investments	<u>0</u>	<u>14,747,971</u>
Total	<u>\$155,420,023</u>	<u>\$14,747,971</u>

Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:

Year Ended June 30:	
2016	14,999,207
2017	14,999,207
2018	14,999,206
2019	44,757,981
2020	26,125,894
Thereafter	24,790,557

SECTION 3: Additional Information for GASB 68 for North Dakota Teachers' Fund for Retirement

Exhibit C below shows the individual components of collective pension expense, which totaled \$86,197,430 for the fiscal year that ended June 30, 2015.

Annual pension expense for the year can also be viewed as the change in net pension liability, plus employer contributions for the year, less the change in outstanding balances of deferred outflows and deferred inflows of resources from the end of the prior fiscal year to end of the current fiscal year. From Exhibit A, the change in net pension liability during the year was \$260,032,465 and employer contributions were \$78,422,098. The net value of deferred outflows and deferred inflows of resources as of the end of the current fiscal year is \$140,672,052 compared to the net value as of the end of the prior fiscal of (\$111,023,082), for a change of \$251,695,134. Therefore, the pension expense for the fiscal year that ended June 30, 2015, is \$260,032,465 + \$78,422,098 – \$251,695,134, or \$86,759,429.

EXHIBIT C

Collective Pension Expense

	Fiscal Year Ending June 30, 2015	Fiscal Year Ending June 30, 2014
Components of pension expense		
Service cost	\$60,617,900	\$56,751,722
Interest on the total pension liability	249,063,837	237,820,894
Projected earnings on plan investments	(166,365,242)	(145,452,583)
Contributions – member	(72,268,451)	(56,554,767)
Contributions – purchased service credit	(1,600,739)	(2,034,289)
Contributions – other	(172,474)	0
Administrative expense	1,923,392	1,586,045
Current year recognition of:		
Changes of assumptions	24,474,950	0
Difference between expected and actual experience	1,650,943	1,335,335
Difference between projected and actual earnings on pension plan investments	(11,126,686)	(29,758,773)
Change of benefit terms	0	0
Restatement of Plan Fiduciary Net Position	<u>561,999</u>	<u>N/A</u>
Total pension expense	<u>\$86,759,429</u>	<u>\$63,693,584</u>

SECTION 3: Additional Information for GASB 68 for North Dakota Teachers' Fund for Retirement

TFFR is classified as a cost-sharing multiple-employer defined benefit pension plan for GASB accounting purposes. As specified in GASB 68, employers that participate in TFFR are required to recognize their proportionate share of the collective pension amounts for all benefits provided through the Fund. Pension amounts to be recognized by employers include the net pension liability, deferred outflows of resources related to pensions, deferred inflows of resources related to pensions, and pension expense. In addition, the effects of (1) a change in the employer's proportion of the collective net pension liability and (2) differences during the measurement period between the employer's contributions and its proportionate share of the total of contributions from employers included in the collective net pension liability are required to be determined and recognized.

The basis of an employer's allocation of the collective pension amounts should be consistent with the manner in which contributions to the plan are determined. Since contributions to TFFR are collected as a percentage of payroll, covered employee payroll for the fiscal year ending June 30, 2015, is used as the proportionate share allocation basis. Retirement and Investment Office staff supplied covered employee payroll for each employer.

The net effect of the change on an employer's proportionate share of the collective net pension liability and collective deferred outflows of resources and deferred inflows of resources is recognized over the average of the expected remaining service lives of all members who are provided with pensions through TFFR.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended June 30, 2015, is recognized over the same period. However, since TFFR contributions are collected on the same basis as the proportionate share allocation, there is no difference between the actual employer contributions and the proportionate share of the employer contributions. If employers no longer report to TFFR, they will continue to remain on the schedule until their deferral balances are depleted.

Exhibits D and E that follow show the proportionate share information for employers of TFFR for the fiscal year ending June 30, 2015.

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EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
Alexander School	\$ 942,165	0.153171%
Anamoose School	700,433	0.113872%
Apple Creek Elem School	321,168	0.052214%
Ashley School	940,568	0.152912%
Bakker Elem School	34,500	0.005609%
Barnes County North	1,652,365	0.268631%
Beach School	2,069,473	0.336442%
Belcourt School	8,039,312	1.306982%
Belfield Public School	1,356,823	0.220584%
Beulah School	3,386,927	0.550626%
Billings Co. School Dist.	631,967	0.102741%
Bismarck Public Schools	66,330,545	10.783616%
Bismarck State College	-	0.000000%
Blessed John Paul II Catholic Sch Network	30,863	0.005018%
Bottineau School	3,684,839	0.599059%
Rowbells School	521,990	0.084862%
Bowman School	2,727,489	0.443419%
Burke Central School	746,092	0.121295%
Burleigh County Spec. Ed.	87,435	0.014215%
Carrington School	2,851,899	0.463644%
Cavalier School	2,147,821	0.349180%
Center Stanton School	1,416,687	0.230316%
Central Cass School	3,427,889	0.557285%
Central Elementary School	63,927	0.010393%
Central Valley School	1,235,280	0.200824%
Dakota Prairie School	1,757,705	0.285757%
Devils Lake School	10,175,860	1.654329%
Dickinson School	17,340,566	2.819124%
Divide School	2,207,907	0.358948%
Drake School	520,062	0.084548%
Drayton School	1,236,526	0.201027%
Dunseith School	2,589,121	0.420923%
E Central Ctr Exc Childn	803,793	0.130676%
Earl Elem. School	30,900	0.005024%
Edgeley School	1,221,200	0.198535%
Edmore School	696,496	0.113232%
Eight Mile School	1,376,633	0.223805%
Elgin-New Leipzig School	982,762	0.159771%
Ellendale School	1,723,476	0.280192%
Emerado Elementary School	557,813	0.090686%
Enderlin Area School District	1,928,787	0.313570%
Fairmount School	982,807	0.159779%
Fargo Public Schools	65,440,942	10.638990%
Fessenden-Bowdon School	939,878	0.152800%
Finley-Sharon School	1,122,664	0.182516%
Flasher School	1,010,501	0.164281%
Fordville Lankin School	569,625	0.092606%
Fort Ransom Elem School	166,524	0.027072%
Fort Totten School	1,543,627	0.250854%
Fort Yates School	1,118,852	0.181896%
Gackle-Streeter Pub Sch	724,545	0.117792%
Garrison School	2,240,554	0.364256%
Glen Ullin School	1,106,691	0.179919%
Glenburn School	1,540,540	0.250452%
Goodrich School	281,322	0.045736%
Grafton School	4,295,908	0.698403%
Grand Forks School	42,971,154	6.985988%
Great North West Cooperative	160,269	0.026056%
Grenora School	1,101,160	0.179020%
Griggs County Central Sch	1,727,525	0.280851%
Gst Educational Services	1,422,035	0.231186%
Halliday School	443,998	0.072183%
Hankinson School	1,473,275	0.239516%
Harvey School	2,145,151	0.348746%
Hatton Etelson Psd	1,105,167	0.179671%
Hazelton - Moffit School	721,118	0.117235%
Hazen School	2,784,803	0.452736%
Hebron School	1,116,577	0.181526%

EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
Hettinger School	1,470,529	0.239070%
Hillsboro School	2,334,605	0.379546%
Hope School	596,108	0.096912%
Horse Creek Elem. School	34,500	0.005609%
James River Multidistrict Spec Ed Unit	1,252,559	0.203633%
Jamestown School	12,847,669	2.088696%
Kenmare School	1,657,519	0.269469%
Kensal School	416,510	0.067714%
Kidder County School District	2,113,190	0.343549%
Killdeer School	2,552,580	0.414983%
Kindred School	3,054,003	0.496501%
Kulm School	1,049,725	0.170658%
Lake Region Spec Ed	1,704,712	0.277142%
Lakota School	1,078,948	0.175409%
Lamoure School	1,525,955	0.248080%
Langdon Area School	2,043,965	0.332295%
Larimore School	1,946,851	0.316507%
Leeds School	1,080,991	0.175741%
Lewis And Clark School	2,533,615	0.411900%
Lidgerwood School	1,075,893	0.174912%
Linton School	1,592,962	0.258974%
Lisbon School	3,229,368	0.525011%
Litchville-Marion School	802,581	0.130479%
Little Heart Elem. School	102,350	0.016639%
Logan County	4,079	0.000663%
Lone Tree Elem. School	222,167	0.036119%
Lonetree Spec Ed Unit	144,397	0.023475%
Maddock School	971,323	0.157912%
Mandan Public Schools	18,106,534	2.943650%
Mandaree School	1,545,115	0.251195%
Manning Elem School	84,270	0.013700%
Manvel Elem. School	739,999	0.120305%
Maple Valley School	1,566,975	0.254749%
Mapleton Elem. School	675,390	0.109801%
Marmarth Elem. School	133,327	0.021675%
Max School	1,109,259	0.180337%
May-Port C-G School	2,615,913	0.425279%
Mcclusky School	661,813	0.107593%
Mckenzie County	48,787	0.007931%
Mckenzie County School	5,592,594	0.909210%
Medina School	915,003	0.148756%
Menoken Elem School	126,900	0.020631%
Midkota	997,216	0.162121%
Midway School	1,341,951	0.218166%
Milnor School	1,451,776	0.236021%
Minnewaukan School	1,616,981	0.262879%
Minot School	41,782,306	6.792713%
Minto School	1,134,852	0.184497%
Mohall Lansford Sherwood	2,266,395	0.368457%
Montpelier School	700,707	0.113917%
Morton County	28,528	0.004638%
Mott-Regent School	1,487,872	0.241889%
Mt Pleasant School	1,556,266	0.253008%
Munich School	828,470	0.134688%
N Central Area Career And Tech Center	143,586	0.023343%
Napoleon School	1,459,067	0.237206%
Naughton Rural School	68,210	0.011089%
Nd Center For Distance Education	1,376,782	0.223829%
Nd Dept Of Public Instruction	113,498	0.018452%
Nd School For Blind	653,216	0.106196%
Nd School For Deaf	880,743	0.143186%
Nd United	306,072	0.049759%
Nd Youth Correctional Cnt	1,148,682	0.186746%
Nedrose School	1,406,389	0.228642%
Nelson County	11,531	0.001875%
Nesson School	1,462,253	0.237724%
New England School	1,224,181	0.199020%
New Public School	2,018,470	0.328151%

EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
New Rockford Sheyenne School	1,729,783	0.281218%
New Salem-Almont	1,743,327	0.283419%
New Town School	4,210,477	0.684514%
Newburg United District	609,685	0.099119%
North Border School	2,545,237	0.413789%
North Sargent School	1,270,298	0.206517%
North Star	1,541,769	0.250651%
North Valley Area Career	521,762	0.084825%
Northern Cass School Dist	2,544,771	0.413713%
Northern Plains Spec Ed	260,925	0.042420%
Northwood School	1,375,647	0.223644%
Oakes School	1,958,481	0.318398%
Oberon Elem School	425,282	0.069140%
Oliver - Mercer Spec Ed	943,552	0.153397%
Page School	694,469	0.112903%
Park River Area School District	2,007,593	0.326382%
Parshall School	1,640,900	0.266767%
Peace Garden Spec Ed	503,942	0.081928%
Pembina Spec Ed Coop	101,589	0.016516%
Pingree - Buchanan School	770,963	0.125338%
Pleasant Valley Elem	-	0.000000%
Powers Lake School	1,019,502	0.165744%
Richardton-Taylor	1,695,010	0.275564%
Richland School	1,568,558	0.255007%
Robinson School	37,235	0.006053%
Rolette County	-	0.000000%
Rolette School	1,154,363	0.187669%
Roosevelt School	380,314	0.061829%
Roughrider Area Career And Tech Center	160,135	0.026034%
Roughrider Service Program	191,316	0.031103%
Rugby School	3,075,745	0.500036%
Rural Cass Spec Ed	1,026,048	0.166809%
Sargent Central School	1,356,395	0.220514%
Sawyer School	879,870	0.143044%
Scranton School	1,078,208	0.175288%
Se Region Career And Tech	1,339,785	0.217814%
Selfridge School	815,751	0.132620%
Sheyenne Valley Area Voc	694,429	0.112896%
Sheyenne Valley Spec Ed	1,607,429	0.261326%
Slope County	23,708	0.003854%
Solen - Cannonball School	1,481,895	0.240918%
Souris Valley Spec Ed	1,540,949	0.250518%
South Cent. Prairie Sp Ed	95,975	0.015603%
South Heart School	1,397,217	0.227151%
South Prairie Elem School	1,359,306	0.220988%
South Valley Spec Ed	699,887	0.113783%
Southwest Special Education Unit	60,320	0.009806%
St. John'S School	2,429,174	0.394920%
St. Thomas School	673,588	0.109508%
Stanley School	3,106,099	0.504971%
Starkweather School	570,703	0.092781%
Sterling School	234,027	0.038047%
Strasburg School District	755,456	0.122817%
Surrey School	2,278,060	0.370353%
Sweet Briar Elem School	77,000	0.012518%
Tgu School District	2,597,628	0.422307%
Thompson School	1,912,181	0.310871%
Tioga School	2,770,986	0.450490%
Turtle Lake-Mercer School	1,157,579	0.188192%
Twin Buttes Elem. School	448,113	0.072851%
Underwood School	1,489,724	0.242190%
United School	2,772,073	0.450667%
Upper Valley Spec Ed	2,320,219	0.377207%
Valley - Edinburg School	1,445,576	0.235013%
Valley City School	5,626,852	0.914779%
Velva School	2,364,311	0.384375%
Wahpeton School	6,548,180	1.064563%
Ward County	27,466	0.004465%

EXHIBIT D
Schedule of Employer Allocations

Employer Name	Covered Employee Payroll	Employer's Proportionate Share Allocation
Warwick School	1,780,738	0.289502%
Washburn School	1,503,763	0.244473%
West Fargo School	48,132,439	7.825079%
West River Student Services	675,396	0.109802%
Westhope School	1,058,898	0.172149%
White Shield School	1,397,389	0.227179%
Williston School	16,446,502	2.673772%
Wilmac Special Education	2,895,200	0.470684%
Wilton School	1,207,198	0.196259%
Wing School	651,680	0.105946%
Wishek School	1,169,293	0.190097%
Wolford School	510,644	0.083017%
Wyndmere School	1,381,266	0.224558%
Yellowstone Elem. School	519,594	0.084472%
Zeeland School	447,251	0.072711%
Grand Totals:	615,104,860	100%

EXHIBIT E
Schedule of Pension Amounts by Employer as of June 30, 2015

Employer Name	Discount Rate Sensitivity						Schedule of Contributions			Pension Expense			
	Employer's Proportionate Share Allocation (1)	Net Pension Liability (2)	Covered Employee Payroll (3)	1% Decrease (6.75%) (4)	Current Discount Rate (7.75%) (5)	1% Increase (8.75%) (6)	Statutory Required Contribution (7)	Contributions In Relation to the Statutory Required Contribution (8)	Contribution Deficiency/ (Excess) (9)	Contributions as a Percentage of Covered Employee Payroll (10)	Proportionate Share of Plan Pension Expense (11)	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (12)	Total Employer Pension Expense (13)
Warwick School	0.289502%	3,786,267	1,780,738	5,003,731	3,786,267	2,770,928	227,034	(227,034)	-	12.75%	251,170	44,799	295,969
Washburn School	0.244473%	3,197,353	1,503,763	4,225,453	3,197,353	2,339,939	191,721	(191,721)	-	12.75%	212,103	(3,094)	209,009
West Fargo School	7.825079%	102,340,701	48,132,439	135,248,076	102,340,701	74,896,646	6,136,591	(6,136,591)	-	12.75%	6,788,994	545,048	7,334,042
West River Student Services	0.109802%	1,436,051	675,396	1,897,809	1,436,051	1,050,954	86,109	(86,109)	-	12.75%	95,264	17,033	112,297
Westhope School	0.172149%	2,251,460	1,058,898	2,975,410	2,251,460	1,647,700	135,003	(135,003)	-	12.75%	149,355	17,942	167,297
White Shield School	0.227179%	2,971,172	1,397,389	3,926,545	2,971,172	2,174,412	178,159	(178,159)	-	12.75%	197,099	(15,146)	181,953
Williston School	2.673772%	34,969,066	16,446,502	46,213,274	34,969,066	25,591,633	2,096,828	(2,096,828)	-	12.75%	2,319,749	463,871	2,783,620
Wilmac Special Education	0.470684%	6,155,865	2,895,200	8,135,267	6,155,865	4,505,086	369,120	(369,120)	-	12.75%	408,363	75,399	483,762
Wilton School	0.196259%	2,566,784	1,207,198	3,392,126	2,566,784	1,878,465	153,910	(153,910)	-	12.75%	170,273	1,324	171,597
Wing School	0.105946%	1,385,620	651,680	1,831,163	1,385,620	1,014,047	83,085	(83,085)	-	12.75%	91,918	(4,159)	87,759
Wishek School	0.190097%	2,486,193	1,169,293	3,285,622	2,486,193	1,819,487	149,078	(149,078)	-	12.75%	164,927	3,430	168,357
Wolford School	0.083017%	1,085,742	510,644	1,434,860	1,085,742	794,586	65,104	(65,104)	-	12.75%	72,025	6,667	78,692
Wyndmere School	0.224568%	2,936,893	1,381,266	3,881,244	2,936,893	2,149,325	176,103	(176,103)	-	12.75%	194,825	(17,816)	177,009
Yellowstone Elem. School	0.084472%	1,104,771	519,594	1,460,008	1,104,771	808,512	66,245	(66,245)	-	12.75%	73,287	8,365	81,652
Zeeland School	0.072711%	950,955	447,251	1,256,731	950,955	695,943	57,021	(57,021)	-	12.75%	63,084	(7,100)	55,984
Grand Totals:	100%	1,307,855,182	615,104,860	1,728,392,470	1,307,855,182	957,135,967	78,422,098	(78,422,098)	-	12.75%	86,759,429	-	86,759,429

Note: Columns may not foot due to rounding.

EXHIBIT E (continued)
Schedule of Pension Amounts by Employer as of June 30, 2015

Employer Name	Deferred Outflows of Resources				Deferred Inflows of Resources				Deferred (Inflows)/Outflows Recognized In Future Pension Expense (Year Ended June 30):						
	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	2016	2017	2018	2019	2020	Thereafter
			(16)					(21)							
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	
Warwick School	24,811	425,133	268,796	718,740	-	42,696	-	42,696	88,222	88,222	88,222	174,374	120,434	116,570	
Washburn School	20,952	359,008	-	379,960	-	36,055	18,565	54,620	33,575	33,575	33,575	106,327	60,777	57,511	
West Fargo School	670,635	11,491,105	3,270,290	15,432,030	-	1,154,040	-	1,154,040	1,718,748	1,718,748	1,718,748	4,047,395	2,589,420	2,484,931	
West River Student Services	9,410	161,244	102,201	272,855	-	16,194	-	16,194	33,503	33,502	33,502	66,178	45,720	44,256	
Westhope School	14,754	252,800	107,654	375,208	-	25,388	-	25,388	43,763	43,763	43,763	94,992	62,917	60,621	
White Shield School	19,470	333,612	-	353,082	-	33,504	90,877	124,381	18,929	18,929	18,929	86,535	44,207	41,172	
Williston School	229,151	3,926,426	2,783,227	6,938,804	-	394,327	-	394,327	864,916	864,916	864,916	1,660,597	1,162,418	1,126,715	
Wilmac Special Education	40,339	691,198	452,397	1,183,934	-	69,416	-	69,416	145,999	145,999	145,999	286,069	198,370	192,082	
Wilton School	16,820	288,206	7,947	312,973	-	28,944	-	28,944	30,762	30,761	30,761	89,166	52,598	49,980	
Wing School	9,080	155,581	-	164,661	-	15,625	24,951	40,576	11,732	11,732	11,732	43,260	23,520	22,109	
Wishek School	16,292	279,157	20,581	316,030	-	28,035	-	28,035	31,943	31,943	31,943	88,514	53,095	50,557	
Wolford School	7,115	121,910	40,000	169,025	-	12,243	-	12,243	19,119	19,119	19,119	43,824	28,356	27,245	
Wyndmere School	19,245	329,763	-	349,008	-	33,118	106,899	140,017	15,865	15,866	15,866	82,692	40,852	37,851	
Yellowstone Elem. School	7,240	124,047	50,191	181,478	-	12,458	-	12,458	21,035	21,035	21,035	46,173	30,434	29,307	
Zealand School	6,232	106,776	-	113,008	-	10,723	-	10,723	42,603	53,326	3,805	3,806	25,444	11,896	
Grand Totals:	8,570,326	146,849,697	19,310,133	174,730,156	-	14,747,971	-	19,310,133	34,058,104	14,999,207	14,999,207	14,999,206	44,757,981	26,125,894	24,790,557

Note: Columns may not foot due to rounding.