BI-STATE DEVELOPMENT
SALARIED EMPLOYEES' PENSION PLAN

Actuarial Valuation as of June 1, 2022

Prepared by

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Consulting Actuary

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Introduction and Purpose

In this report, we present the results of the June 1, 2022 actuarial valuation for the Bi-State Development Salaried Employees' Pension Plan. The report has been prepared at the request of Bi-State Development's Board, for the sole use of the Board, Bi-State Development, and the Pension Committee.

PURPOSES OF THE VALUATION

The actuarial valuation of the Plan is intended to accomplish several purposes:

- The calculation of the actuarially determined employer contribution
- Assessment of the relative funded position of the plan on an ongoing basis, i.e., through a comparison of plan assets and projected plan liabilities

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Actuarial Certification

As requested, we have performed an actuarial valuation of the Pension Plan for Salaried Employees of the Bi-State Development Agency of the Missouri-Illinois Metropolitan District (Plan) as of June 1, 2022. Our findings are set forth in this actuary's report. This report reflects the benefit provisions in effect on June 1, 2022.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by Bi-State Development, Milliman (administrative practice), UHY LLP and U.S. Bank. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

The valuation results have been developed using models employing standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice. The models, including all input, calculations, and output may not be appropriate for any other purpose.

Actuarial assumptions, including discount rates, mortality tables, and others identified in this report, and actuarial cost methods are prescribed jointly by Bi-State Development and the Pension Committee. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies methods and assumptions used in this valuation are those that have been so prescribed and are described in this report. Bi-State Development and the Pension Committee are solely responsible for communicating to Milliman any changes required thereto.

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of calculating the actuarially determined contribution for the Plan. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Plan's funding requirements and goals and the plan provisions described on pages 21-24 of this report. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the use and benefit of Bi-State Development. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

(a) The Plan may provide a copy of Milliman's work, in its entirety, to the Plan's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Plan.

(b) The Plan may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,

William D. Winningham, EA, MAAA
Consulting Actuary
Joint Board Enrollment #20-06367

Michael A. Sudduth, FSA, MAAA
Consulting Actuary
Joint Board Enrollment #20-06248

WDW/MAS/crd

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Discussion of Valuation Results

1. **Actuarially Determined Contribution**

A comparison of the actuarially determined contributions for the current and immediately preceding valuations is shown below:

	Actuarial Valuation as of	
	June 1, 2021	June 1, 2022
Actuarially Determined Employer Contribution	$2,784,472	$2,319,178
Actual Employer Contribution	$8,000,000	N/A

There was a decrease in the actuarially determined contribution as compared to the preceding year. The primary reasons for the decrease were return on the actuarial value of assets greater than the assumed rate of 6.0% and contributing in excess of the Actuarially Determined Contribution.

2. **Plan Assets**

The market value of plan assets decreased from $101,927,862 at June 1, 2021 to $95,751,577 at June 1, 2022. A balance sheet and statement of income and disbursements are presented on pages 9 and 10, respectively. The net market rate of return was -6.9% versus 29.8% for the prior year.

The actuarial value of assets increased from $90,726,042 at June 1, 2021 to $97,497,905 at June 1, 2022. The development of the June 1, 2022 actuarial value of assets is presented on page 12. The net actuarial rate of return for the period was 6.5% versus the assumed rate of 6.0%.

3. **Actuarial Assumptions, Methods and Plan Provisions**

All actuarial assumptions, methods and plan provisions remained the same as the prior year. Descriptions of these can be found on pages 18-24.

The funding method is the Projected Unit Credit method. The Unfunded Actuarial Accrued Liability is amortized as a level dollar amount over 30 years. Negative unfunded liability is not amortized. The amortization period was reset to 30 years effective June 1, 2010.

Discussion of Valuation Results (continued)

4. **Plan Population**

   The number of active participants included in the valuation decreased from 146 in the previous valuation to 136 in the current valuation. The number of retirees and beneficiaries increased from 492 to 493. The number of deferred vested participants increased from 109 to 111. The number of participants on LTD remained at 1. The number of terminated nonvested participants due employee contribution refunds remained at 1.

5. **Funded Status**

   There are various bases for assessing the funded status of the Plan on an ongoing basis (see page 14 for detailed calculations). One basis is to divide the actuarial value of assets by the Accrued Liability. Page 14 shows this ratio to be 88.9% for the current year. An upward trend in this ratio over the years is considered a favorable indicator of the Plan's funding progress.

   Another measure displayed on page 14 is the Unfunded Accrued Liability as a percentage of covered payroll. A downward trend in this ratio over time is considered favorable.

6. **Reconciliation of Unfunded Actuarial Accrued Liability**

   The Plan experienced an overall net decrease in unfunded actuarial accrued liability for the Plan Year ending May 31, 2022 of approximately $6,045,000. The reconciliation of the unfunded actuarial accrued liability from June 1, 2021 to June 1, 2022 is summarized on the next page.

<u>Discussion of Valuation Results (continued)</u>

Unfunded Actuarial Accrued Liability as of June 1, 2021	$18,170,000
Normal Cost Including Expense Load	1,168,000
Contributions	(8,286,000)
Interest	915,000
Expected Unfunded Actuarial Accrued Liability as of June 1, 2022	11,967,000
Decrease due to Gain on Actuarial Assets	(438,000)
Increase due to Loss on Expenses	41,000
Increase due to Loss on Liability (Including Salary Experience, Data Changes and Mortality)	555,000
Unfunded Actuarial Accrued Liability as of June 1, 2022	12,125,000

7. **GASB Statement Nos. 67 and 68**

Results under GASB Statement Nos. 67 and 68 are provided in a separate report.

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Summary of Valuation Results

	Valuation Date June 1, 2021	Valuation Date June 1, 2022	
Number of Participants:			
Active	146	136	*
On LTD	1	1	
Terminated Nonvested Due Refund	1	1	
Terminated Vested	109	111	
Receiving Payments	492	493	
Total	749	742	
Market Value of Assets	101,927,862	95,751,577	
Actuarial Value of Assets	90,726,042	97,497,905	
Present Value of Future Benefits	118,982,623	119,083,122	**
Actuarial Accrued Liability	108,895,616	109,622,665	**
Unfunded Actuarial Accrued Liability	18,169,574	12,124,760	
Actuarially Determined Contribution	2,784,472	2,319,178	

* Includes 39 Participants who transferred from the ATU Local 788 Plan, with liability of $3,930,869 that will be paid from the ATU Local 788 Plan and 5 Participants who transferred from the IBEW Plan, with liability of $205,745 that will be paid from the IBEW Plan.

** Includes 3 Participants who transferred to the ATU Local 788 Plan with liability of $29,563 that is included in this valuation for prior Salaried service.

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Statement of Assets as of June 1, 2022

Assets	Market Value
1. Cash and Cash Equivalents	4,594,327
2. Investments at Fair Value	91,137,554
3. Participant Contributions Receivable	18,540
4. Receivable for Securities Sold	1,156
Total Assets	95,751,577
Liabilities	
None	
Total Liabilities	0
Net Assets	95,751,577

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Statement of Income and Disbursements

1.	Market Value of Assets as of June 1, 2021	101,927,862
2.	Income	
	a. Employer Contributions	8,000,000
	b. Employee Contributions	286,152
	c. Net Appreciation/(Depreciation) in Fair Value of Investments	(8,091,935)
	d. Interest and Dividends	1,127,787
	e. Total Income	1,322,004
3.	Disbursements	
	a. Benefit Payments	7,258,347
	b. Investment Related Expenses	77,096
	c. Administrative Expenses	162,846
	d. Total Disbursements	7,498,289
4.	Net Increase/(Decrease): (2e) - (3d)	(6,176,285)
5.	Market Value of Assets as of June 1, 2022: (1) + (4)	95,751,577
6.	Net Rate of Return	-6.9%

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Historical Returns on Market Value of Assets

Plan Year Ended	Annual Return	Geometric Average Return
05/31/2009	-22.3%	-22.3%
05/31/2010	13.3%	-6.2%
05/31/2011	17.4%	1.1%
05/31/2012	-5.1%	-0.5%
05/31/2013	16.0%	2.6%
05/31/2014	11.1%	4.0%
05/31/2015	4.6%	4.1%
05/31/2016	-3.6%	3.1%
05/31/2017	9.8%	3.8%
05/31/2018	9.4%	4.4%
05/31/2019	-0.2%	3.9%
05/31/2020	4.3%	4.0%
05/31/2021	29.8%	5.8%
05/31/2022	-6.9%	4.8%

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Development of Actuarial Value of Assets

		Plan Year Ended 05/31/2019	Plan Year Ended 05/31/2020	Plan Year Ended 05/31/2021	Plan Year Ended 05/31/2022
1.	Market Value at Beginning of Year	73,015,609	75,160,933	77,249,457	101,927,862
2.	Contributions	7,464,944	4,417,349	7,371,783	8,286,152
3.	Benefit Payments	(5,030,924)	(5,406,008)	(5,823,465)	(7,258,347)
4.	Administrative Expenses	(133,847)	(106,186)	(133,987)	(162,846)
5.	Assumed Rate of Return	7.00%	7.00%	7.00%	6.00%
6.	Expected Return: (1) x (5) + [(2) + (3) + (4)] x {[1 + (5)]^0.5 - 1}	5,190,237	5,223,594	5,456,126	6,141,243
7.	Expected Market Value at End of Year: (1) + (2) + (3) + (4) + (6)	80,506,019	79,289,682	84,119,914	108,934,064
8.	Actual Market Value at End of Year	75,160,933	77,249,457	101,927,862	95,751,577
9.	(Gain) / Loss on Market Value: (7) - (8)	5,345,086	2,040,225	(17,807,948)	13,182,487

Plan Year Ended	(Gain) / Loss	Factor	Amount Deferred
05/31/2022	13,182,487	0.8	10,545,990
05/31/2021	(17,807,948)	0.6	(10,684,769)
05/31/2020	2,040,225	0.4	816,090
05/31/2019	5,345,086	0.2	1,069,017

10.	Total	1,746,328
11.	Actuarial Value of Assets: (8) + (10)	97,497,905
12.	Net Rate of Return	6.5%
13.	Actuarial Value as a Percentage of Market Value	101.8%

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Development of Actuarially Determined Contribution

		June 1, 2022
1.	Actuarial Accrued Liability	
	a. Active Participants	26,796,143
	b. Participants on LTD	120,777
	c. Terminated Vested Participants/Nonvested Return of Contributions	7,294,557
	d. Participants Receiving Payments	75,411,188
	e. Total	109,622,665
2.	Actuarial Value of Assets	97,497,905
3	Unfunded Actuarial Accrued Liability: (1e) - (2)	12,124,760
4.	Projected Unit Credit Normal Cost	1,347,970
5.	Expected Employee Contributions	286,141
6.	Expense Load	134,340
7.	Projected Unit Credit Normal Cost, Net of Expected Employee Contributions, with Expense Load: (4) - (5) + (6)	1,196,169
8.	Amortization of Unfunded Actuarial Accrued Liability Liability Over 30 Years from June 1, 2010	1,056,416
9.	Actuarially Determined Contribution at Beginning of Year: (7) + (8)	2,252,585
10.	Actuarially Determined Contribution with Interest	2,319,178

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Schedule of Funding Progress *

Date of Valuation	Actuarial Value of Assets	Actuarial Accrued Liability **	Unfunded Actuarial Accrued Liability (UAL)	Funded Ratio	Covered Payroll	UAL as a Percentage of Covered Payroll
(1)	(2)	(3)	(4) = (3) - (2)	(5)=(2)/(3)	(6)	(7) = (4) / (6)
06/01/1996	$19,614,381	$19,614,381	$0	100.0%	$13,692,612	0.0%
06/01/1997	21,951,099	21,951,099	0	100.0%	14,175,675	0.0%
06/01/1998	24,893,733	24,893,733	0	100.0%	14,856,228	0.0%
06/01/1999	27,945,872	27,945,872	0	100.0%	16,425,700	0.0%
06/01/2000	29,683,563	29,683,563	0	100.0%	15,996,616	0.0%
06/01/2001	30,858,863	30,858,863	0	100.0%	20,221,778	0.0%
06/01/2002	32,918,196	32,918,196	0	100.0%	21,554,152	0.0%
06/01/2003	35,069,865	35,069,865	0	100.0%	23,885,228	0.0%
06/01/2004	37,865,040	37,321,892	(543,148)	101.5%	25,201,532	-2.2%
06/01/2005	40,281,552	39,850,200	(431,352)	101.1%	27,630,438	-1.6%
06/01/2006	42,880,931	42,280,212	(600,719)	101.4%	25,601,698	-2.3%
06/01/2007	44,751,281	43,192,896	(1,558,385)	103.6%	25,417,682	-6.1%
06/01/2008	47,677,929	46,380,318	(1,297,611)	102.8%	25,645,092	-5.1%
06/01/2009	48,126,959	47,280,017	(846,942)	101.8%	25,465,982	-3.3%
06/01/2010	47,226,544	56,933,387	9,706,843	83.0%	25,286,621	38.4%
06/01/2011	47,127,952	58,573,502	11,445,550	80.5%	26,578,943	43.1%
06/01/2012	47,628,801	63,034,360	15,405,559	75.6%	26,309,983	58.6%
06/01/2013	49,704,047	67,865,918	18,161,871	73.2%	27,621,000	65.8%
06/01/2014	55,612,180	73,512,998	17,900,818	75.6%	21,841,333	82.0%
06/01/2015	58,097,258	74,159,799	16,062,541	78.3%	21,825,710	73.6%
06/01/2016	59,578,888	83,570,358	23,991,470	71.3%	22,657,974	105.9%
06/01/2017	66,248,667	86,602,702	20,354,035	76.5%	22,111,116	92.1%
06/01/2018	73,704,464	89,647,942	15,943,478	82.2%	20,804,079	76.6%
06/01/2019	79,129,533	92,770,177	13,640,644	85.3%	18,194,581	75.0%
06/01/2020	81,141,042	94,793,252	13,652,210	85.6%	16,693,450	81.8%
06/01/2021	90,726,042	108,895,616	18,169,574	83.3%	12,355,973	147.1%
06/01/2022	97,497,905	109,622,665	12,124,760	88.9%	12,196,943	99.4%

* GASB Accounting disclosures as of May 31, 2015 and later are included in separate reports.

** The Aggregate Cost Method was used prior to June 1, 2004.

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Summary of Participant Data

	June 1, 2021	June 1, 2022	
1. Active Participants			
a. Count	146	136	*
b. Average Salary	$86,695	$92,159	
c. Average Age	53.6	54.8	
d. Average Service	19.2	20.3	
2. Participants on LTD			
a. Count	1	1	
b. Total Monthly Benefits	$1,170	$1,170	
c. Average Monthly Benefit	$1,170	$1,170	
3. Terminated Nonvested Participants Due Refund			
a. Count	1	1	
b. Total Refund Due	$1,958	$2,017	
4. Terminated Vested Participants			
a. Count	109	111	
b. Total Monthly Benefits	$72,195	$71,360	
c. Average Monthly Benefit	$662	$643	
5. Participants Receiving Payments			
a. Count	492	493	
b. Total Monthly Benefits	$604,308	$606,271	
c. Average Monthly Benefit	$1,228	$1,230	

* Includes 39 Participants who transferred from the ATU Local 788 Plan and 5 Participants who transferred from the IBEW Plan. In addition, there are 3 Participants who transferred to the ATU Local 788 Plan that have liabilities included in this valuation for prior Salaried service.

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Distribution of Active Participants by Age and by Years of Service
(as of June 1, 2022)

	YEARS OF CREDITED SERVICE										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Age	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	Total
Under 25	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	2	3	1	0	0	0	0	6
40 to 44	0	0	1	2	3	3	0	0	0	0	9
45 to 49	0	0	1	3	5	4	1	0	0	0	14
50 to 54	0	0	2	6	10	14	4	1	0	0	37
55 to 59	0	0	1	7	8	9	6	7	2	0	40
60 to 64	0	0	0	4	6	10	2	1	0	1	24
65 to 69	0	0	0	1	1	1	1	0	0	0	4
70 and up	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	5	26	37	42	14	9	2	1	136

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Summary of Changes in Participant Data

	Active Participants	On LTD	Terminated Nonvested Due Refund	Terminated Vested	Retirees	Total
Count as of June 1, 2021	146	1	1	109	492	749
Rehires	0	0	0	0	0	0
Transferred to 788	0	0	0	0	0	0
Went on LTD	0	0	0	0	0	0
Retired	(3)	0	0	(6)	9	0
Lump Sum Payouts	0	0	0	0	(8)	(8)
Died with Beneficiary	0	0	0	0	(4)	(4)
Died without Beneficiary	0	0	0	0	0	0
New Beneficiaries	0	0	0	0	4	4
New Alternate Payees	0	0	0	0	0	0
Terminated Vested	(7)	0	0	7	0	0
Terminated Nonvested - Due Refund	0	0	0	0	0	0
Terminated Nonvested - Received Refund	0	0	0	0	0	0
Certain Period Expired	0	0	0	0	0	0
Net Data Corrections	0	0	0	1	0	1
Net Changes	(10)	0	0	2	1	(7)
Count as of June 1, 2022	136	1	1	111	493	742

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Actuarial Assumptions and Methods

Interest

6.00% per annum, net of expenses, compounded annually (effective 6/1/2021)

Salary Increases

4.5% per annum

Mortality

Pub-2010 General Amount-Weighted Mortality Tables for Employees, Healthy Retirees, Disabled Retirees and Contingent Survivors, male and female rates, with generational projection from 2010 using Scale MP-2021 (improvement scale updates published annually)

Withdrawal

Rates at selected ages are:

Age	Percent Terminating During Year
25	10.6
30	10.0
35	9.4
40	7.0
45	3.5
50	0.0
55	0.0
60	0.0

Actuarial Assumptions and Methods (continued)

Retirement

Rates vary by age as follows:

Age	Percent Retiring During Year
55	10%
56	5
57	5
58	5
59	5
60	10
61	10
62	40
63	20
64	20
65	50
66-69	30
70 & over	100

Disability

Rates at selected ages are:

Age	Percent Becoming Disabled During Year
25	0.064%
30	0.075
35	0.092
40	0.124
45	0.188
50	0.300
55	0.489
60	0.000
65	0.000

Expenses

Average of the actual administrative expenses for the last 3 plan years

Marriage

90% of members are assumed to be married at the time of withdrawal, retirement, death or disability. Males are assumed to be 3 years older than their spouses.

Form of Payment

All members are assumed to elect the Life Annuity.

Actuarial Cost Method

Service Pro-Rate Unit Credit: The normal cost for each participant is the present value of the benefit earned during the year. The accrued liability for each participant is the present value of the Participant's accrued benefit as of the valuation date. The plan normal cost and accrued liability are the respective sums for all Participants. Changes in the accrued liability are amortized as a level dollar amount over a 30 year period effective June 1, 2010. For the June 1, 2022 valuation, the remaining amortization period is 18 years.

Asset Valuation Method

The actuarial value of assets was determined using the expected return method, without phase-in, effective June 1, 2010. This method is fully defined in IRS Revenue Procedure 2000-40, Section 3.15.

Under this method, the gain or loss for a year is the difference between the expected value of assets for the year and the market value. The expected value is the market value brought forward one year at the assumed rate of return with appropriate adjustments for contributions and disbursements. The actuarial value of assets is equal to the market value of assets, with the gains and losses deferred as follows:

i. 80% of the prior year gain/loss
ii. 60% of the second preceding year's gain/loss
iii. 40% of the third preceding year's gain/loss
iv. 20% of the fourth preceding year's gain/loss

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Summary of Plan Provisions

A summary of the current primary provisions of the Plan is presented below.

Effective Date

Originally effective June 1, 1964; The most recent restatement was effective January 1, 2014, including the amendments signed September 8, 2014, September 25, 2015, June 28, 2019 and December 4, 2020.

Eligibility

Participants become eligible after their first hour of employment. Employees hired on or after July 1, 2013 do not participate in the Plan.

Covered Employment

Employed by Bi-State Development as a salaried employee on a full-time basis and not covered under a collective bargaining unit

Employee Contributions

Effective January 1, 2014, Participants contribute 3% of Bi-Weekly Base Pay, less reimbursements and allowances.

Credited Service

Continuous Service from date of hire until date of termination earned in terms of years, months, weeks and days

Vesting

A member becomes 100% vested upon completion of 5 years of Credited Service.

Monthly Earnings

Base pay including cost-of-living adjustments and excluding bonuses, overtime and commissions and any other additional compensation

Summary of Plan Provisions (continued)

Final Average Monthly Earnings

The highest average amount of monthly earnings on the three consecutive plan anniversary dates while in Covered Employment

Normal Retirement Date

First of the month coincident with or next following the earlier of age 60 with 5 or more years of Credited Service

Normal Retirement Benefit

The greater of the following:

1. The Accrued Benefit as of May 31, 1989 plus 1.5% of Final Average Monthly Earnings times years of Credited Service after May 31, 1989

2. 1.5% of Final Average Monthly Earnings times all years of Credited Service

Note that years of Credited Service prior to February 1, 1985 are not recognized for Participants who received a distribution of their Accumulated Cash Share.

Early Retirement Date

First of the month coincident with or next following age 55 and 10 years of Credited Service

Early Retirement Benefit

A monthly benefit equal to the Accrued Benefit reduced ¼% for each month by which the Benefit Commencement Date precedes age 60

Late Retirement Benefit

Accrued Benefit calculated at Late Retirement Date

Summary of Plan Provisions (continued)

Highly Enhanced Early Retirement Opportunity Pension (HERO)

Active Participants who attained age 55 by November 30, 2020 and retired between January 1, 2021 and May 1, 2021 were offered the following enhanced benefits:

1. Their Accrued Benefits were calculated with additional Credited Service equal to the greater of 2 years or 10% of Credited Service as of November 30, 2020.

2. They will receive an additional $400 per month for 60 months.

Disability Benefit

If Participants become disabled while in employment after completing 5 years of Credited Service, they will continue to earn Credited Service up until their Normal Retirement Date as long as they continue to qualify as disabled.

Pre-Retirement Death Benefit

If a Participant dies prior to retirement and after completing 5 years of Credited Service, a monthly benefit will be payable to his or her beneficiary equal to 100% of the Accrued Benefit earned as of the date of death. The beneficiary is allowed to choose among the survivor portion of all available payment options. If the Participant completed at least 10 years of Credited Service, the benefit will be payable immediately to their beneficiary in a reduced amount according to the Plan's Early Retirement provisions. If the Participant had less than 10 years of Credited Service, the benefit is payable beginning on the Participant's Normal Retirement Date.

Participants who die prior to becoming eligible for retirement benefits will have their employee contributions accumulated with interest paid to their beneficiary or beneficiaries.

Unused Sick Leave

Participants who retire under Normal, Early or Late Retirement and beneficiaries of Participants who die with 5 or more years of Credited Service will have their unused sick leave, if any, converted to Credited Service in an amount equal to 1 week of Credited Service for every 8 hours of unused sick leave, to a maximum of 3 years. For terminations of employment after January 1, 2014, unused sick leave will not be converted to Credited Service.

Unused Excess Sick Leave

Participants who retire under Normal, Early or Late Retirement and beneficiaries of Participants who die with 5 or more years of Credited Service are entitled to a Supplemental Pension based on their unused excess sick leave account. Unused excess sick leave may be converted to either a single lump sum of 85% of the unused excess sick leave amount or monthly payments for either 3 or 7 years based on conversion factors contained in the Plan Document.

Unused Banked Vacation Time

Participants' unused banked vacation time in excess of 45 days as of December 31, 2009 will be converted to Credited Service in an amount equal to 1 week of Credited Service for every 8 hours of unused banked vacation time. For terminations of employment after June 14, 2013, unused banked vacation will not be converted to Credited Service.

Normal Form of Payment

Single Life Annuity

Optional Forms of Payment

Ten-Year Certain and Life Option
Contingent Annuitant Options (100%, 66 2/3% or 50%)

Transferred Participants

Participants who have transferred to another Bi-State Development Pension Plan will have their benefit based on Credited Service under this Plan calculated according to the benefit formula of the Bi-State Development Pension Plan that they are active in at the time of their termination.

Bi-State Development
Salaried Employees' Pension Plan

June 1, 2022 Actuarial Valuation

Actuarial Standard of Practice No. 51 (ASOP 51)

The purpose of this appendix is to identify, assess, and provide illustrations of risks that are significant to the Plan, and in some cases to the Plan's participants.

The results of the actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match the assumptions. As an example, investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these potential differences when making decisions that may affect the future financial health of the Plan, or of the Plan's participants.

In addition, as plans mature they accumulate larger pools of assets and liabilities. This increases the potential risk to plan funding and the finances of those who are responsible for plan funding. As an example, it is more difficult for a plan sponsor to deal with the effects of a 10% investment loss on a plan with $1 Billion in assets and liabilities than if the same plan sponsor is responsible for a 10% investment loss on a plan with $1 Million in assets and liabilities. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Actuarial Standard of Practice No. 51 (ASOP 51) addresses these issues by providing actuaries with guidance for assessing and disclosing the risk associated with measuring pension liabilities and the determination of pension plan contributions. Specifically, it directs the actuary to:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

ASOP 51 states that if in the actuary's professional judgment, a more detailed assessment would be significantly beneficial in helping the individuals responsible for the plan to understand the risks identified by the actuary, then the actuary should recommend that such an assessment be performed.

This appendix uses the framework of ASOP 51 to communicate important information about: significant risks to the Plan, the Plan's maturity, and relevant historical Plan data.

Actuarial Standard of Practice No. 51 (ASOP 51)

Maturity Risk
- Definition: This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time.
- Identification: The Plan is subject to maturity risk because as Plan assets and liabilities continue to grow, the impact of any gains or losses on the assets or liabilities also becomes larger.
- Assessment: Currently assets are equal to 12 times last year's contributions indicating a one-year asset loss of 10% would be equal to 1.2 times last year's contributions.

Retirement Risk
- Definition: This is the potential for participants to retire and receive subsidized benefits more valuable than expected.
- Identification: This plan has valuable early retirement benefits. If participants retire at earlier ages than anticipated by the actuarial assumptions, it is expected that additional funding will be required.

Investment Risk
- Definition: The potential that investment returns will be different than expected.
- Identification: To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, funding contributions and funded status may differ significantly from those presented in this valuation.

Interest Rate Risk
- Definition: The potential that interest rates will be different than expected.
- Identification: The pension liabilities reported herein have been calculated by computing the present value of expected future benefit payments using the interest rate(s) described in the appendix. If interest rate(s) in future valuations are different from those used in this valuation, future pension liabilities, funding contributions and funded status may differ significantly from those presented in this valuation. As a general rule, using a higher interest rate to compute the present value of future benefit payments will result in a lower pension liability, and vice versa. One aspect that can be used to estimate the impact of different interest rates is the plan's duration.
- Assessment: If the interest rate changes by 1%, the estimated percentage change in pension liability is approximately 11%.

Actuarial Standard of Practice No. 51 (ASOP 51)

Demographic Risks

- Definition: The potential that mortality or other demographic experience will be different than expected.
- Identification: The pension liabilities reported herein have been calculated by assuming that participants will follow patterns of demographic experience (e.g. mortality, withdrawal, disability, retirement, form of payment election, etc.) as described in the appendix. If actual demographic experience or future demographic assumptions are different from what is assumed to occur in this valuation, future pension liabilities, funding contributions and funded status may differ significantly from those presented in this valuation.