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## **NMI Settlement Fund**

Actuarial Valuation as of September 30, 2016

Prepared by:

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September 18, 2017

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**NMI Settlement Fund –  
Actuarial Valuation as of September 30, 2016**

As part of our engagement with the NMI Settlement Fund, we performed an actuarial valuation of the NMI Settlement Fund as of September 30, 2016. The purpose of the actuarial valuation is to project the minimum annual payments to be made by the Commonwealth of the Northern Mariana Islands (CNMI) to pay 75% of the Class Members' Full Benefits.

In preparing this report, I relied, without audit, on information (some oral and some in writing) supplied by the Fund's staff. This information includes, but is not limited to, financial information, member census data, and plan provisions. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete the results may be different and the calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Fund have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the Fund.

This valuation report is only an estimate of the Fund's financial condition as of a single date. It can neither predict the Fund's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Fund benefits, only the timing of Fund 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 Fund'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 the purposes of determining the recommended funding amounts for the Fund. Determinations for other purposes may be significantly different from the results contained in this report. Therefore, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the use and benefit of the NMI Settlement Fund. 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):

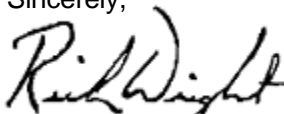
- (a) NMI Settlement Fund may provide a copy of Milliman's work, in its entirety, to its professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the NMI Settlement Fund.
- (b) NMI Settlement Fund may provide 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 pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

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. The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,



Richard A. Wright, FSA, MAAA  
Principal, Consulting Actuary

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**SECTION I. VALUATION SUMMARY****INTRODUCTION**

Milliman, Inc. has been retained by the NMI Settlement Fund to provide an actuarial valuation of the Fund. The NMI Settlement Fund was created to pay pension benefits to members of the Northern Mariana Islands Retirement Fund who opted to become members of the NMI Settlement Fund.

Section 4.0 of the settlement agreement that created the NMI Settlement Fund requires the Commonwealth of the Northern Mariana Islands (CNMI) to make minimum annual payments each year to pay 75% of the Class Members' Full Benefits. The payments for fiscal years 2014 and 2015 were fixed at \$25,000,000 and \$27,000,000, respectively. The payments after fiscal year 2015 are to be determined by an independent actuary.

In our valuation we:

- Summarize the membership data.
- Estimate the future annual benefits to be paid by the NMI Settlement Fund.
- Review the current Fund balance.
- Project the fund balance forward for the expected life of the NMI Settlement Fund.
- Determine the minimum annual payments to be made by CNMI.

The results contained in this report represent our best estimates. However, it is likely that actual experience will vary from these estimates. To the extent that actual experience differs from the anticipated experience, actual plan costs will vary as well.

**HIGHLIGHTS**

- A payment of \$30,000,000 was made for fiscal year 2016. We have determined that the minimum annual payments from CNMI that were shown in the NMI Settlement Agreement should stay in effect for the next two years. This includes minimum payments of \$33,000,000 for fiscal year 2017, and \$45,000,000 for fiscal year 2018. Starting in FY 2019, the Settlement Fund will essentially become a "pay as you go" entity, as the CNMI minimum payments will be approximately equal to the pension payments (at 75%).
- If we assume life expectancies based upon the mortality table used in the 2012 actuarial valuation of the Northern Mariana Islands Retirement Fund, the minimum payment for CNMI is estimated to be \$44,000,000 for FY 2019. The minimum payments are estimated to decline by \$1,000,000 per year to FY 2036, resulting in a minimum payment of \$27,000,000 for FY 2036. After that point, CNMI payments will equal the benefits and expenses paid by the NMI Settlement Fund. Exhibit 7 shows the projected Fund balance for the next 40 years based upon the current mortality assumption.
- If we assume improved life expectancies, the minimum payment for CNMI is estimated to be \$44,000,000 for FY 2019 and is estimated to stay at that level for each fiscal year through FY 2028. Minimum payments for FY 2029 through FY 2035 are estimated to each be \$43,000,000. After that point, CNMI payments will equal the benefits and expenses paid by the NMI Settlement Fund. Exhibit 8 shows the projected Fund balance for the next 40 years assuming improved life expectancies.

**RESULTS OF VALUATION**

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**SECTION I. VALUATION SUMMARY**

	September 30, 2016	September 30, 2015
<b>Participant Counts</b>		
Active Employees (Class I)	66	85
Active Employees (Class II)	<u>6</u>	<u>10</u>
Total Active Employees	72	95
Retirees	<u>2,956</u>	<u>2,998</u>
Total Participants	3,028	3,093
<b>Market Value of Assets</b>	\$81,500,800	\$84,988,584
<b>Benefit Payments from NMI Settlement Fund</b>	\$45,552,832	\$46,549,182
<b>CNMI Annual Payments</b>		
FY 2014	\$25,000,000	\$25,000,000
FY 2015	27,000,000	27,000,000
FY 2016	30,000,000	30,000,000
<b>Projected CNMI Payments (current mortality)</b>		
FY 2017	33,000,000	33,000,000
FY 2018	45,000,000	45,000,000
FY 2019	44,000,000	44,000,000
FY 2020	43,000,000	43,000,000
FY 2021	42,000,000	42,000,000
(see Exhibit 7 for FY 2022 and later years)		
<b>Projected CNMI Payments (improved mortality)</b>		
FY 2017	33,000,000	33,000,000
FY 2018	45,000,000	45,000,000
FY 2019	44,000,000	46,000,000
FY 2020	44,000,000	47,000,000
FY 2021	44,000,000	47,000,000
(see Exhibit 8 for FY 2022 and later years)		

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**SECTION I. VALUATION SUMMARY****ACTUARIAL ASSUMPTIONS**

The following are the major assumptions used in the actuarial valuation. The assumptions are generally the same as those used in the 2012 actuarial valuation performed by the prior actuary, as stated in the audited financial statements of the Northern Mariana Islands Retirement Fund for the fiscal year ending September 30, 2012, except where indicated below. To the extent that actual experience differs from the assumptions below, future pension costs will differ.

*Expected Investment Return:* We have used the investment return assumptions provided by the investment consultant: 4.61% for fiscal year 2017, 4.15% for fiscal year 2018, 3.99% for fiscal year 2019, 3.77% for fiscal year 2020, 3.37% for fiscal year 2021, and 2.5% thereafter.

*Mortality:* The mortality table used in the previous actuarial study was the 1971 Group Annuity Mortality table for Males, with ages set forward 3 years for males. Based upon the experience observed during the 12 months ending September 30, 2016, we have determined that this table is still reasonable to use for this purpose. However, due to the relatively small sample size and the potential for adverse experience, we will continue to show the impact of using an improved mortality table, which is the RP 2000 mortality table for healthy lives projected to 2015 using Scale AA.

*Salary Increases:* Salaries are not assumed to increase in future years.

*Retirement Age:* The earlier of age 62, if eligible, or 25 years of vesting service.

*Administrative Expenses:* Administrative expenses and fees are assumed to be \$1,309,232 for fiscal year ending September 30, 2017, and are assumed to remain at that level until the fiscal year ending September 30, 2035, and then decline by 10% per year.

*Rates of Withdrawal and Disability:* The assumed rates of withdrawal and disability are shown in Appendix B.

*Probability of Marriage:* We have assumed that 94% of participants are married and that males are 5 years older than their female spouses.

A complete summary of actuarial assumptions is in Appendix B.

**FUNDING METHOD**

Section 4.0 of the settlement agreement that created the NMI Settlement Fund requires the Commonwealth of the Northern Mariana Islands (CNMI) to make minimum annual payments each year to pay 75% of the Class Members' Full Benefits. The payments for fiscal years 2014 and 2015 were fixed at \$25,000,000 and \$27,000,000, respectively. The payments after fiscal year 2015 are to be determined by an independent actuary. For fiscal years 2016, a payment of \$30,000,000 was made. The payment for fiscal years 2017 is \$33,000,000 and the payment for fiscal year 2018 is \$45,000,000.

## SECTION II. VALUATION EXHIBITS

## EXHIBIT 1. SUMMARY OF FUND ASSETS

Listed below are the assets reported for the NMI Settlement Fund in the Fund's draft financial statements.

	September 30, 2016	September 30, 2015
<b>Assets</b>		
Cash and cash equivalents	\$ 907,813	\$ 4,846,728
<b>Receivables</b>		
Employer contributions	\$ 338,865	\$ 19,928
Less: Allowance for uncollectible receivables	<u>(338,865)</u>	<u>(79,531)</u>
Net receivables from employers	\$ 0	\$ (59,603)
<b>Other Receivables</b>		
Judicial building fund loan	\$ 4,303,214	\$ 4,570,559
Benefits receivable	214,235	312,080
TAL and professional fees	0	260,626
CNMI annual payment	0	0
Due from NMIRF – Transfer of assets	0	1,234,225
Other receivables	<u>264,177</u>	<u>46,073</u>
Total receivables	\$ 4,781,626	\$ 6,423,563
<b>Property and equipment</b>	\$ 197,068	\$ 192,151
<b>Investments at fair market value</b>		
Cash equivalent	\$ 0	\$ 0
Mutual funds – fixed income	59,579,294	58,747,049
Equity securities	16,198,363	15,066,149
Due to broker	(112,968)	0
Corporate debt instruments	<u>0</u>	<u>0</u>
Total investments	\$ 75,664,689	\$ 73,813,198
<b>Prepaid Expenses</b>	\$ <u>80,484</u>	\$ <u>74,553</u>
<b>TOTAL ASSETS</b>	\$ 81,631,680	\$ 85,290,591
<b>Liabilities</b>		
Accounts payable	\$ 84,177	\$ 125,702
Deferred revenues	0	0
Judicial building trust fund	515	515
Due to broker	0	112,700
Other payables	<u>46,188</u>	<u>63,090</u>
Total liabilities	\$ 130,880	\$ 302,007
<b>Net Assets Held in Trust for Pension Benefits</b>	<u>\$ 81,500,800</u>	<u>\$ 84,988,584</u>

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## SECTION II. VALUATION EXHIBITS

## EXHIBIT 2. CHANGES IN FUND ASSETS

Assets increase or decrease each year due to employer contributions, investment income, benefit payments to retiring participants, plan expenses paid by the trust fund, and any realized and unrealized gains and losses from investments.

	FISCAL YEAR ENDING	
	September 30, 2016	September 30, 2015
<b>Beginning Balance</b>	\$ 85,011,886	\$ 104,236,477
<b>Contributions</b>		
Employer contributions	1,635,938	1,643,459
Employee contributions	<u>559,372</u>	<u>558,285</u>
Total contributions	2,195,310	2,201,744
<b>Investment Income</b>		
Interest and dividend income	2,673,348	2,786,232
Net realized and unrealized gains and (losses)	<u>2,834,152</u>	<u>(3,575,553)</u>
Total investment income	5,507,500	(789,321)
Less: Management and custodial fee	<u>0</u>	<u>0</u>
Net investment income / (loss)	5,507,500	(789,321)
<b>Other Additions</b>		
Local investment income	445,178	429,827
Rental and other income	48,070	297,209
Litigation settlement proceeds	5,154,919	0
CNMI appropriations	<u>30,000,000</u>	<u>27,000,000</u>
Total other additions	35,648,167	27,727,036
<b>TOTAL ADDITIONS</b>	43,350,977	29,139,458
<b>Benefit Payments</b>		
Retirement benefits	38,860,937	39,996,330
Survivors benefits	5,909,248	5,695,383
Refunds	68,438	67,647
Disability benefits	657,742	726,342
Death lump sum distributions	<u>56,467</u>	<u>63,480</u>
Total benefit and refund payments	45,552,832	46,549,182
<b>Administrative Expenses and Fees</b>	1,309,231	1,838,169
<b>Ending Balance (before adjustment)</b>	81,500,800	84,988,584
Reconciliation to 9/30/16 financial statements	0	23,302
<b>Ending Balance</b>	\$ 81,500,800	\$ 85,011,886

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## SECTION II. VALUATION EXHIBITS

## EXHIBIT 3. SUMMARY OF CENSUS DATA

	September 30, 2016	September 30, 2015
<b>Active Employees</b>		
Class 1	66	85
Class 2	<u>6</u>	<u>10</u>
Total	72	95
Average age	51.2	51.6
Average service	20.7	19.7
Total salary	\$ 3,054,317	\$ 3,622,082
<b>Retirees</b>		
Healthy retiree	2,129	2,179
Disabled retiree	49	62
Surviving spouses	650	624
Child pensioner	<u>128</u>	<u>133</u>
Total	2,956	2,998
Average age	61.8	61.2
Life expectancy (current mortality)	17.6	18.0
Life expectancy (improved mortality)	23.3	23.4
Annual benefit payments at 100%	\$ 61,207,686	\$ 62,206,287
Annual benefit payments at 75%	\$ 45,905,765	\$ 46,654,715

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**SECTION II. VALUATION EXHIBITS**

**EXHIBIT 4. RECONCILIATION OF CENSUS DATA**

	Actives	Healthy Retirees	Disabled Retirees	Surviving Spouses	Child Pensioners	Total
<b>As of 9/30/15</b>	<b>95</b>	<b>2,179</b>	<b>62</b>	<b>624</b>	<b>133</b>	<b>3,093</b>
New Participants	4	27		58	24	113
Active to Healthy Ret	(9)	9				0
Dis Ret to Healthy Ret		10	(10)			0
Other (drops)	<u>(18)</u>	<u>(96)</u>	<u>(3)</u>	<u>(32)</u>	<u>(29)</u>	<u>(178)</u>
<b>As of 9/30/16</b>	<b>72</b>	<b>2,129</b>	<b>49</b>	<b>650</b>	<b>128</b>	<b>3,028</b>

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**SECTION II. VALUATION EXHIBITS**

**EXHIBIT 5. PROJECTED BENEFIT PAYMENTS – CURRENT MORTALITY**

Fiscal Year Ending 9/30	Active Employee Count	Active Employee Salary	Current Retirees	Future Retirees	Total Retirees	Benefit Payments
2017	72.0	\$3,054,317	2,956.0	-	2,956.0	\$45,905,765
2018	47.5	1,820,320	2,926.2	24.4	2,950.6	45,989,882
2019	41.3	1,549,286	2,889.4	30.5	2,919.9	46,013,217
2020	30.7	1,121,308	2,838.2	41.0	2,879.2	45,789,886
2021	27.1	975,662	2,779.4	44.6	2,823.9	45,547,438
2022	19.2	651,024	2,698.4	52.4	2,750.8	45,089,801
2023	15.3	501,360	2,610.9	56.1	2,667.0	44,519,416
2024	12.3	376,491	2,522.2	58.9	2,581.1	43,755,216
2025	11.2	331,499	2,438.8	59.7	2,498.5	42,985,453
2026	9.3	274,490	2,358.2	61.2	2,419.4	42,131,275
2027	8.4	236,819	2,273.7	61.7	2,335.5	41,182,051
2028	7.3	195,718	2,185.8	62.3	2,248.1	40,117,234
2029	6.5	175,711	2,097.0	62.6	2,159.5	39,001,259
2030	3.7	103,693	2,005.6	64.8	2,070.4	37,784,069
2031	2.9	73,096	1,913.2	64.9	1,978.0	36,492,979
2032	2.3	59,564	1,821.1	64.6	1,885.7	35,134,320
2033	1.2	33,562	1,728.0	64.8	1,792.8	33,715,905
2034	-	-	1,634.3	65.0	1,699.3	32,237,009
2035	-	-	1,540.4	63.8	1,604.3	30,712,694
2036	-	-	1,446.9	62.6	1,509.5	29,153,537
2037	-	-	1,354.3	61.2	1,415.5	27,570,440
2038	-	-	1,262.9	59.7	1,322.7	25,973,850
2039	-	-	1,173.4	58.2	1,231.5	24,370,055
2040	-	-	1,086.0	56.4	1,142.4	22,769,234
2041	-	-	1,001.2	54.6	1,055.8	21,183,873
2042	-	-	919.3	52.7	972.0	19,623,511
2043	-	-	840.6	50.7	891.3	18,099,351
2044	-	-	765.4	48.5	813.9	16,617,337
2045	-	-	693.8	46.4	740.2	15,185,266
2046	-	-	626.1	44.1	670.2	13,807,533
2047	-	-	562.4	41.8	604.2	12,492,021
2048	-	-	502.7	39.4	542.1	11,243,528
2049	-	-	447.1	37.0	484.1	10,065,858
2050	-	-	395.5	34.6	430.1	8,961,869
2051	-	-	348.0	32.2	380.2	7,933,460
2052	-	-	304.4	29.8	334.2	6,981,573
2053	-	-	264.7	27.4	292.1	6,106,295
2054	-	-	228.8	25.1	253.9	5,306,904
2055	-	-	196.4	22.9	219.3	4,581,940
2056	-	-	167.5	20.8	188.2	3,929,266

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**SECTION II. VALUATION EXHIBITS**

**EXHIBIT 6. PROJECTED BENEFIT PAYMENTS – IMPROVED MORTALITY**

Fiscal Year Ending 9/30	Active Employee Count	Active Employee Salary	Current Retirees	Future Retirees	Total Retirees	Benefit Payments
2017	72.0	\$3,054,317	2,956.0	-	2,956.0	\$46,138,073
2018	47.7	1,830,465	2,941.4	24.2	2,965.6	46,765,060
2019	41.7	1,566,561	2,924.8	30.2	2,954.9	47,390,708
2020	31.2	1,140,218	2,898.0	40.7	2,938.7	47,822,602
2021	27.6	995,507	2,867.0	44.3	2,911.3	48,285,726
2022	19.5	665,137	2,816.7	52.3	2,869.0	48,573,944
2023	15.6	514,652	2,762.1	56.2	2,818.3	48,786,008
2024	12.6	386,075	2,708.0	59.2	2,767.2	48,832,130
2025	11.5	342,113	2,660.3	60.2	2,720.5	48,895,109
2026	9.6	284,638	2,615.9	62.0	2,677.9	48,887,756
2027	8.7	247,312	2,567.8	62.8	2,630.6	48,791,944
2028	7.7	204,771	2,516.0	63.8	2,579.7	48,577,116
2029	6.9	185,237	2,462.3	64.4	2,526.7	48,300,146
2030	3.9	109,596	2,404.9	67.2	2,472.1	47,900,326
2031	3.0	77,055	2,344.7	67.9	2,412.6	47,395,337
2032	2.5	63,535	2,282.9	68.1	2,351.0	46,782,069
2033	1.3	36,285	2,217.4	69.0	2,286.4	46,059,055
2034	-	-	2,148.4	70.0	2,218.3	45,215,105
2035	-	-	2,076.1	69.5	2,145.6	44,256,133
2036	-	-	2,000.6	69.0	2,069.7	43,183,811
2037	-	-	1,922.3	68.5	1,990.7	42,002,123
2038	-	-	1,841.3	67.8	1,909.1	40,715,894
2039	-	-	1,758.1	67.1	1,825.2	39,326,762
2040	-	-	1,673.0	66.3	1,739.3	37,842,523
2041	-	-	1,586.4	65.3	1,651.8	36,275,118
2042	-	-	1,498.9	64.3	1,563.3	34,635,293
2043	-	-	1,411.0	63.2	1,474.2	32,937,092
2044	-	-	1,323.1	61.9	1,385.0	31,190,541
2045	-	-	1,235.8	60.6	1,296.4	29,409,024
2046	-	-	1,149.7	59.1	1,208.7	27,603,470
2047	-	-	1,065.1	57.4	1,122.5	25,789,681
2048	-	-	982.6	55.7	1,038.3	23,981,161
2049	-	-	902.6	53.9	956.4	22,191,058
2050	-	-	825.4	51.9	877.3	20,431,726
2051	-	-	751.4	49.8	801.2	18,714,538
2052	-	-	680.7	47.6	728.4	17,050,037
2053	-	-	613.7	45.4	659.1	15,447,368
2054	-	-	550.5	43.0	593.5	13,914,861
2055	-	-	491.0	40.6	531.6	12,459,448
2056	-	-	435.5	38.1	473.7	11,086,454

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## SECTION II. VALUATION EXHIBITS

## EXHIBIT 7. PROJECTED FUND BALANCE – CURRENT MORTALITY

FYE 9/30	Beginning Balance	CNMI Payments	Other Contribs	Investment Earnings	Benefit Payments	Expenses & Fees	Ending Balance
2017	\$81,500,800	\$33,000,000	\$1,243,046	\$3,458,183	\$(45,905,765)	\$(1,309,232)	\$71,987,032
2018	71,987,032	45,000,000	740,834	2,955,128	(45,989,882)	(1,309,232)	73,383,880
2019	73,383,880	44,000,000	630,528	2,874,313	(46,013,217)	(1,309,232)	73,566,272
2020	73,566,272	43,000,000	456,350	2,704,782	(45,789,886)	(1,309,232)	72,628,286
2021	72,628,286	42,000,000	397,075	2,372,429	(45,547,438)	(1,309,232)	70,541,120
2022	70,541,120	41,000,000	264,954	1,699,352	(45,089,801)	(1,309,232)	67,106,393
2023	67,106,393	40,000,000	204,043	1,607,352	(44,519,416)	(1,309,232)	63,089,140
2024	63,089,140	39,000,000	153,224	1,503,338	(43,755,216)	(1,309,232)	58,681,254
2025	58,681,254	38,000,000	134,913	1,390,034	(42,985,453)	(1,309,232)	53,911,516
2026	53,911,516	37,000,000	111,712	1,268,678	(42,131,275)	(1,309,232)	48,851,399
2027	48,851,399	36,000,000	96,381	1,141,349	(41,182,051)	(1,309,232)	43,597,846
2028	43,597,846	35,000,000	79,653	1,010,611	(40,117,234)	(1,309,232)	38,261,644
2029	38,261,644	34,000,000	71,511	878,554	(39,001,259)	(1,309,232)	32,901,218
2030	32,901,218	33,000,000	42,201	746,892	(37,784,069)	(1,309,232)	27,597,010
2031	27,597,010	32,000,000	29,749	617,769	(36,492,979)	(1,309,232)	22,442,317
2032	22,442,317	31,000,000	24,241	493,317	(35,134,320)	(1,309,232)	17,516,323
2033	17,516,323	30,000,000	13,659	375,265	(33,715,905)	(1,309,232)	12,880,110
2034	12,880,110	29,000,000	-	265,175	(32,237,009)	(1,309,232)	8,599,044
2035	8,599,044	28,000,000	-	164,702	(30,712,694)	(1,309,232)	4,741,820
2036	4,741,820	27,000,000	-	-	(29,153,537)	(1,178,309)	1,409,974
2037	1,409,974	27,220,944	-	-	(27,570,440)	(1,060,478)	-
2038	-	26,928,280	-	-	(25,973,850)	(954,430)	-
2039	-	25,229,042	-	-	(24,370,055)	(858,987)	-
2040	-	23,542,322	-	-	(22,769,234)	(773,088)	-
2041	-	21,879,653	-	-	(21,183,873)	(695,780)	-
2042	-	20,249,713	-	-	(19,623,511)	(626,202)	-
2043	-	18,662,932	-	-	(18,099,351)	(563,581)	-
2044	-	17,124,560	-	-	(16,617,337)	(507,223)	-
2045	-	15,641,767	-	-	(15,185,266)	(456,501)	-
2046	-	14,218,384	-	-	(13,807,533)	(410,851)	-
2047	-	12,861,787	-	-	(12,492,021)	(369,766)	-
2048	-	11,576,317	-	-	(11,243,528)	(332,789)	-
2049	-	10,365,368	-	-	(10,065,858)	(299,510)	-
2050	-	9,231,428	-	-	(8,961,869)	(269,559)	-
2051	-	8,176,063	-	-	(7,933,460)	(242,603)	-
2052	-	7,199,916	-	-	(6,981,573)	(218,343)	-
2053	-	6,302,804	-	-	(6,106,295)	(196,509)	-
2054	-	5,483,762	-	-	(5,306,904)	(176,858)	-
2055	-	4,741,112	-	-	(4,581,940)	(159,172)	-
2056	-	4,072,521	-	-	(3,929,266)	(143,255)	-

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## SECTION II. VALUATION EXHIBITS

## EXHIBIT 8. PROJECTED FUND BALANCE – IMPROVED MORTALITY

FYE 9/30	Beginning Balance	CNMI Payments	Other Contribs	Investment Earnings	Benefit Payments	Expenses & Fees	Ending Balance
2017	\$81,500,800	\$33,000,000	\$1,243,046	\$3,452,829	\$(46,138,073)	\$(1,309,232)	\$71,749,370
2018	71,749,370	45,000,000	744,963	2,929,265	(46,765,060)	(1,309,232)	72,349,306
2019	72,349,306	44,000,000	637,559	2,805,693	(47,390,708)	(1,309,232)	71,092,618
2020	71,092,618	44,000,000	464,046	2,592,204	(47,822,602)	(1,309,232)	69,017,034
2021	69,017,034	44,000,000	405,151	2,238,426	(48,285,726)	(1,309,232)	66,065,653
2022	66,065,653	44,000,000	270,697	1,581,485	(48,573,944)	(1,309,232)	62,034,659
2023	62,034,659	44,000,000	209,453	1,477,294	(48,786,008)	(1,309,232)	57,626,166
2024	57,626,166	44,000,000	157,125	1,365,851	(48,832,130)	(1,309,232)	53,007,780
2025	53,007,780	44,000,000	139,233	1,249,381	(48,895,109)	(1,309,232)	48,192,053
2026	48,192,053	44,000,000	115,842	1,128,787	(48,887,756)	(1,309,232)	43,239,694
2027	43,239,694	44,000,000	100,651	1,005,986	(48,791,944)	(1,309,232)	38,245,155
2028	38,245,155	44,000,000	83,338	883,591	(48,577,116)	(1,309,232)	33,325,736
2029	33,325,736	43,000,000	75,388	751,469	(48,300,146)	(1,309,232)	27,543,215
2030	27,543,215	43,000,000	44,603	611,518	(47,900,326)	(1,309,232)	21,989,778
2031	21,989,778	43,000,000	31,360	478,829	(47,395,337)	(1,309,232)	16,795,398
2032	16,795,398	43,000,000	25,857	356,567	(46,782,069)	(1,309,232)	12,086,521
2033	12,086,521	43,000,000	14,767	247,744	(46,059,055)	(1,309,232)	7,980,745
2034	7,980,745	43,000,000	-	155,464	(45,215,105)	(1,309,232)	4,611,872
2035	4,611,872	43,000,000	-	83,230	(44,256,133)	(1,309,232)	2,129,737
2036	2,129,737	42,232,383	-	-	(43,183,811)	(1,178,309)	-
2037	-	43,062,601	-	-	(42,002,123)	(1,060,478)	-
2038	-	41,670,324	-	-	(40,715,894)	(954,430)	-
2039	-	40,185,749	-	-	(39,326,762)	(858,987)	-
2040	-	38,615,611	-	-	(37,842,523)	(773,088)	-
2041	-	36,970,898	-	-	(36,275,118)	(695,780)	-
2042	-	35,261,495	-	-	(34,635,293)	(626,202)	-
2043	-	33,500,673	-	-	(32,937,092)	(563,581)	-
2044	-	31,697,764	-	-	(31,190,541)	(507,223)	-
2045	-	29,865,525	-	-	(29,409,024)	(456,501)	-
2046	-	28,014,321	-	-	(27,603,470)	(410,851)	-
2047	-	26,159,447	-	-	(25,789,681)	(369,766)	-
2048	-	24,313,950	-	-	(23,981,161)	(332,789)	-
2049	-	22,490,568	-	-	(22,191,058)	(299,510)	-
2050	-	20,701,285	-	-	(20,431,726)	(269,559)	-
2051	-	18,957,141	-	-	(18,714,538)	(242,603)	-
2052	-	17,268,380	-	-	(17,050,037)	(218,343)	-
2053	-	15,643,877	-	-	(15,447,368)	(196,509)	-
2054	-	14,091,719	-	-	(13,914,861)	(176,858)	-
2055	-	12,618,620	-	-	(12,459,448)	(159,172)	-
2056	-	11,229,709	-	-	(11,086,454)	(143,255)	-

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## APPENDIX A. SUMMARY OF PLAN PROVISIONS

The following description is a brief summary of the provisions of the Northern Marinas Islands Retirement Plan, as shown in the audited financial statements for the NMI Retirement Fund for the fiscal year ending September 30, 2012.

**Membership:** Class II members are all persons who were Fund members prior to the effective date of Public Law 6-17 and who did not choose to become Class I members.

**Membership Service:** Service is earned for actual compensated government employment after becoming a Fund member. 1/12 year of service is earned for each month of employment.

### **Benefit Formulas:**

**Class I Formula:** The sum of (i) and (ii) below, but not less than \$6,000 nor greater than 85% of average annual salary.

- (i) The sum of 2.5% of average annual salary for each of the first 25 years of service with a maximum of 50% of average annual salary, plus
- (ii) 2.5% of average annual salary for each year of service in excess of 25 years.

The minimum amount of service retirement annuity payable by the Fund is \$6,000 per year. The maximum retirement annuity is 85% of “average annual salary.”

**Class II Formula:** The sum of (i) and (ii) below, but not less than \$6,000 nor greater than 85% of average annual salary.

- (i) The sum of 2% of average annual salary for each of the first 10 years of service and 2.5% of average annual salary for each year of service in excess of 10 years, plus
- (ii) Twenty dollars (\$20) for each year of service reduced by 1/100<sup>th</sup> of 1% for each dollar that average annual salary exceeds \$6,000.

The minimum amount of service retirement annuity payable by the Fund is \$6,000 per year. The maximum retirement annuity is 85% of “average annual salary.”

Class II members receive the greater of the benefit determined using the Class II formula or the benefit determined using the Class I formula as if all service had been rendered as a Class I member.

**Average Annual Salary:** Average of three highest annual salaries, or \$6,000, whichever is greater.

### **Normal Retirement:**

**Eligibility:** Eligibility for Class I benefit is age 62 and 10 years of contributing membership after May 7, 1989. Eligibility for Class II benefit is age 60 or 25 years of membership service.

**Form of Benefit:** Payment is in the form of a life annuity with a cost of living increase each year for the first \$30,000 of benefits equal to that which is used by the United States of America Social



Security System commencing on January 1 of each year subsequent to the anniversary of retirement after attainment of age 55.

**Early Retirement:**

*Eligibility:* Eligibility for Class I early retirement is age 52 and 10 years of membership service or 25 years of membership service. At least 10 years of membership service must be earned after May 7, 1989. Class II members are not eligible for early retirement.

*Amount of Benefit:* Same as normal retirement benefit, except reduced by an actuarially determined amount (3%) for each month the member is under 62 years of age.

*Form of Benefit:* Same as normal retirement benefit.

**Termination:**

*Eligibility:* Eligibility for Class I termination benefit is 10 years of contributing membership service. Eligibility for Class II termination benefit is 3 years of vesting service.

*Amount of Benefit:* Same as normal retirement benefit.

*Form of Benefit:* Same as normal retirement benefit, except the annuity commences at age 62 for Class I members and age 60 for Class II members.

**Disability Retirement:**

*Eligibility:* Members who are less than age 62, who are totally and permanently disabled and, in the case of non-occupational causes, who accumulate at least 5 years of membership service.

*Amount of Benefit:* 50% of the member's salary in effect as of the date of disability or 66 2/3% of member's salary in effect if individual became a member prior to December 5, 2003. At age 62, the member will receive a normal retirement benefit calculated assuming service had continued to age 62 at the same salary received at the time of disability and the Class I formula is used. Disability benefits will be reduced by the U.S. Social Security System, Workers' Compensation or other disability insurance payments.

*Form of Benefit:* Same as normal retirement benefit.

**Survivor's Benefits:**

*Eligibility:* Members who were active employees with at least 18 months of service for Class I and at least 3 years of service for Class II, or members who were receiving retirement or disability benefits.

*Amount of Benefit:* A surviving spouse will receive 50% of the member's normal retirement benefit, or benefit being paid at death, but not less than \$6,000 per year. Each surviving minor child (with a maximum of three children) will receive the greater of \$1,080 and 16 2/3% of the member's normal retirement benefit or the benefit being paid at death.

**SECTION III. APPENDICES**

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**Form of Benefit:** The surviving spouse benefit will commence immediately if there are minor children, otherwise at the spouse's attainment of age 35, and continues until remarriage or death. Payment will be in the form of a life annuity with a cost of living increase each year equal to that which is used by the U.S. Social Security System, commencing January 1 subsequent to the anniversary of the spouse's annuity date after attainment of age 55.

The children's benefit commences immediately and continues until the respective child's attainment of age 18 (age 22 if a full-time student) unless the child is disabled.

**Lump Sum Death Benefit:**

**Eligibility:** Members who were active employees or members who were receiving retirement or disability benefits.

**Amount of Benefit:** A lump sum of \$1,000 plus, if there is no surviving spouse or children, a refund, reduced by pension payments already received, of 1/3<sup>rd</sup> of the accumulated employee contributions with interest.

**Contributions:** Class I members who are active employees contribute 10.5% per year. Class II members who are active employees contribute 11% per year.

## SECTION III. APPENDICES

## APPENDIX B. ACTUARIAL COST METHOD AND ASSUMPTIONS

	September 30, 2016		September 30, 2015	
<b>Actuarial Cost Method</b>	Entry Age Normal		Entry Age Normal	
<b>Investment Return</b>	4.61% for FY 2017, 4.15% for FY 2018, 3.99% for FY 2019, 3.77% for FY 2020, 3.37% for FY 2021, then 2.5% for each FY thereafter		3.78% for FY 2016, 3.25% for FY 2017, 1.55% for FY 2018, then 1.55% for each FY thereafter	
<b>Salary Increases</b>	No future salary increases		No future salary increases	
<b>Mortality (current)</b>	1971 Group Annuity Mortality Table for Males with ages set forward 3 years for Males		1971 Group Annuity Mortality Table for Males with ages set forward 3 years for Males	
<b>Mortality (improved)</b>	RP-2000 Combined Healthy table for Males and Females, projected to 2015 using Mortality Improvement Scale AA		RP-2000 Combined Healthy table for Males and Females, projected to 2015 using Mortality Improvement Scale AA	
<b>Retirement Age</b>	Earlier of age 62, if eligible, or 25 years of vesting service.		Earlier of age 62, if eligible, or 25 years of vesting service.	
<b>Marital Status</b>	94% of participants are assumed to be married and males are assumed to be 5 years older than female spouses.		94% of participants are assumed to be married and males are assumed to be 5 years older than female spouses.	
<b>Survivor Benefit – Minor Children</b>	Married participants are assumed to have two minor children aged 13 on benefit commencement date.		Married participants are assumed to have two minor children aged 13 on benefit commencement date.	
<b>Turnover</b>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
	20	.1303	20	.1303
	25	.1078	25	.1078
	30	.0858	30	.0858
	35	.0683	35	.0683
	40	.0508	40	.0508
	45	.0333	45	.0333
	50	.0158	50	.0158
	55 & up	.0000	55 & up	.0000

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**SECTION III. APPENDICES**

	September 30, 2016			September 30, 2015		
<b>Disability</b>	<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
	25	.00020	.00021	25	.00020	.00021
	30	.00023	.00036	30	.00023	.00036
	35	.00035	.00061	35	.00035	.00061
	40	.00060	.00093	40	.00060	.00093
	45	.00112	.00135	45	.00112	.00135
	50	.00310	.00185	50	.00310	.00185
	55	.00334	.00261	55	.00334	.00261
	60	.00441	.00352	60	.00441	.00352
<b>Cost of Living Adjustment</b>	2% per year			2% per year		
<b>Administrative Expenses</b>	<u>Current Mortality</u> \$1,039,232 per year from FY 2017 to FY 2035, then decreasing 10% per year.			<u>Current Mortality</u> \$2,086,700 per year from FY 2016 to FY 2031, then decreasing 10% per year.		
	<u>Improved Mortality</u> \$1,039,232 per year from FY 2017 to FY 2035, then decreasing 10% per year.			<u>Improved Mortality</u> \$2,086,400 per year from FY 2016 to FY 2035, then decreasing 10% per year.		

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