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**West Virginia
Emergency Medical Services
Retirement System**

**Actuarial Valuation Report
for the Fiscal Year Commencing**

July 1, 2010

**Prepared by:
Actuarial Staff
of the
West Virginia
Consolidated Public Retirement Board**

November 2010

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Actuarial Review and Certification

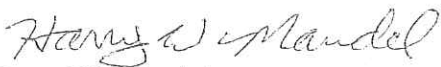
This Report presents the results of an Actuarial Valuation of the West Virginia Emergency Medical Services Retirement System (EMSRS) as of July 1, 2010. The purposes of the Actuarial Valuation are to determine the actuarial liabilities for the Plan and to determine if the expected contributions will be sufficient to meet or exceed the Plan's long term funding policy.

On the July 1, 2010 Actuarial Valuation date, the Actuarial Accrued Liability (AAL) attributable to past years of employment totaled \$31,503,000. Assets in the EMSRS trust fund had a market value of \$23,662,000. The Unfunded Actuarial Accrued Liability (UAAL) was \$7,841,000. The resulting funded level for EMSRS is 75.1%. It is noted that the reduction in UAAL includes actuarial gains on investments of about \$1,250,000 due to an actuarial asset return rate of 13.99%, some 6.49% above the expected actuarial return of 7.5%.

The employer funding policy for EMSRS is to contribute at least the employer Normal Cost plus the amount necessary to fund the UAAL over 28 years from July 1, 2010. Funding payments are calculated as level dollar amortization payments. The actuarially required contribution (ARC) under the funding policy for FY2011 is \$1,345,000. The total expected employer contribution at the current 10.5% of payroll contribution rate is \$2,243,000. Expected EMSRS employer contributions exceed the ARC requirement by \$898,000. A change in the employer contribution rate is not recommended since the funded level of 75.1% triggers an automatic plan provision to increase the initial 20 year benefit percentage from 2.6% to 2.75% of average pay. The increased benefit formula will be first recognized in the July 1, 2011 actuarial valuation. Additionally, regular retirements are allowed starting on January 1, 2011 and initial retirement experience will also be first recognized.

The Actuary hereby certifies that this Actuarial Valuation Report was completed in compliance with actuarial standards applicable to the purposes of the Actuarial Valuation. The Actuary further certifies that the actuarial methods and assumptions applied in completing the Actuarial Valuation as reasonable and appropriate for the purposes stated herein.

Respectfully Submitted:



Harry W. Mandel
Board Actuary
Member, American Academy of Actuaries
Member Society of Pension Actuaries
Enrolled Actuary #08-2527

Summary of the Valuation

This July 1, 2010 Actuarial Valuation Report for EMSRS presents an actuarial analysis of the financial position of the Plan for FY2011. It includes a determination of the funded position of the Plan as of the valuation date under the Entry Age Cost Method with Aggregate Normal Cost. The result is applied to prepare disclosure for EMSRS under GASB 25 & 27. It further determines if expected member and employer contributions will be sufficient to meet the ARC under the funding policy for EMSRS. The funding policy is to contribute the Normal Cost plus level dollar amortization payments to fund the UAAL through FY2038 (30 years from July 1, 2008 or 28 years from the current valuation date).

The July 1, 2010 Actuarial Valuation for EMSRS was completed in-house by the actuarial staff of the West Virginia Consolidated Public Retirement Board (CPRB). ProVal actuarial software is used by the CPRB actuarial staff to complete the actuarial calculations and is leased from Winklevoss Technologies. To assure the integrity of the actuarial valuation, the ProVal programming was reviewed by the technical actuarial staff at Buck Consultants who concurred with the CPRB staff programming of ProVal for the EMSRS valuation. Buck Consultants use ProVal software for the valuations they complete and remain available for support and to discuss any issues which might arise in future years.

The detailed financial results are found in the tables following this summary. The information contained in the tables is briefly highlighted as follows:

Table 1, Development of Valuation Results – Provides the details of the actuarially determined financial position of the Plan on July 1, 2010 with comparative results from July 1, 2009. The AAL attributable to prior years of employment totaled \$31,503,000. The market value of Trust Fund assets funds \$23,662,000 of the AAL for a funding percentage of 75.1%. The UAAL of \$7,841,000 reflects original unfunded liabilities under EMSRS, additional unfunded liabilities for service amounts purchased under EMSRS during the allowable window at 60% of the AAL less actuarial gains for the year primarily in investment return. The employer Normal Cost is 3.12% of payroll. With the employer contribution rate set at 10.5%, the remaining 7.38% of payroll can be used to fund the UAAL which is targeted as level dollar amortization through FY2038. For FY2011, the Actuarial Required Contribution is \$1,345,000. The expected employer contribution at 10.5% of pay is projected to be \$2,243,000 and is sufficient to fund the ARC with a margin of \$898,000. This additional funding is expected to be required for EMSRS to attain an actuarially sound funded level. Member contributions of 8.5% of payroll are applied directly to the pay the member portion of the Normal Cost.

Table 2, Projection of Unfunded Actuarial Accrued Liability Amortization – This table projects the funding progress of the UAAL under the remaining 30 year amortization with level dollar funding policy through FY 2038. The Scheduled UAAL Amortization Payment is \$654,000 annually. The table shows that required employer Normal Cost contributions will increase in future years based on the assumed payroll growth rate of 3.0%. All member contributions are applied to fund the members' portion of the annual Normal Cost.

Table 3, Estimated Progress of Pension Plan from Fiscal Year 2011 through 2030 – The table details the expected cash flow for EMSRS for the next 20 years through FY2030. Contributions include expected member and employer contributions each year. Projected benefit payouts are based on the current membership with projections under the actuarial assumptions through FY2030. This tends to understate benefit payments somewhat in later years as newly hired members during the period start becoming eligible for benefits near the end of the projection period as well as the costs of disability and early termination benefits for new hires during the projection period. It is noted that the FY2011 benefit payment amounts include termination benefits only, with regular retirement benefits becoming first available on and after January 1, 2011 under the Plan's initial retirement eligibility provisions.

Table 4, GASB-25 and GASB-27 Supplementary Disclosure Information as of July 1, 2010 – Information as required for governmental plan disclosure under GASB-25 and GASB-27 is provided in this table. The information was prepared in compliance with the GASB requirements. The information provides a funded position history for EMSRS from the initial valuation on January 1, 2008 through this valuation. A summary of the key inflationary assumptions employed in the Actuarial Valuation is also shown. It should be noted that the July 1, 2010 funded percentage of 75.1% provides a basis from which the Plan can be reasonably funded at the current member and employer contribution rates. The percentage has increased from 63.7% last year due to contributions and gains on the actuarial return on assets.

Table 5, Valuation Assets as of July 1, 2010 – A statement of the market value of assets is shown. Assets are valued at market value as reported by the West Virginia Investment Management Board (IMB). The IMB is responsible for the investment of all Trust Fund assets for the Plan. The initial assets included amounts transferred from PERS to EMSRS attributable to the funded benefits under PERS for members transferring from PERS to EMSRS. The July 1, 2010 assets include the past service purchase payments made by certain members. The ability to start past service purchases expired December 31, 2008. Continued payments are being made for members so electing prior to December 31, 2008.

Table 6, Statement of Changes in Net Assets for Benefits For Year Ended June 30, 2010 – The reconciliation of Trust Fund assets for the year ending on the valuation date is presented in this table. It reflects the Trust Fund transactions for the valuation year from July 1, 2009 through June 30, 2010. The Table also provides the estimated IMB return rate for the year of 15.68% and the calculated actuarial average weighted return rate of 13.99%.

Table 7, Reconciliation of Plan Members as of July 1, 2010 – Plan membership for actuarial valuation purposes is taken as a “snap shot” on the actuarial valuation date. The membership starts with EMSRS members on the prior July 1, 2009 actuarial valuation date. Active membership grew from 511 members to 525 members. Inactive members increased from 72 to 102 with total membership increasing from 583 to 627.

Table 8, Number and Total Annual Compensation of Active Members at July 1, 2010 – This table provides an age and service distribution for the 525 active members. The annual actuarial valuation compensation for each age/service cell in the table is shown along with the number of members in each cell. This table is useful in visually analyzing the active membership groups for items such as vesting and retirement eligibility. Compensation shown is the reported FY2010 actual compensation received.

Table 9, Distribution of the Number and Average Annual Benefits of Retired Members as of July 1, 2010 – This table provides an age and type of retirement breakdown for those receiving monthly benefits from EMSRS. There were no retired members on the valuation date. Regular and Non-Duty Disability retirements are currently restricted and not permitted before January 1, 2011. Duty Disability retirements are not restricted, but none have been awarded.

Table 10, Distribution of the Number and Average Annual Benefits of Vested Terminated Members as of July 1, 2010 – This table provides an age breakdown for 27 terminated members eligible for deferred vested benefits when they reach retirement age. These members elected to maintain participation in EMSRS instead of withdrawing their member contributions in anticipation of re-employment with a participating employer. They could also elect to remain inactive until eligibility for retirement benefits is obtained.

Following the tables are three summary sections. The first section provides an overview of the EMSRS benefits provisions that were taken into account in the Actuarial Valuation. This provides a quick reference of the benefit provisions as included in the Actuarial Valuation but is not intended to be a comprehensive summary of all EMSRS benefit provisions. Actual EMSRS Plan provisions are contained in State Code. The second section provides a brief description of the actuarial methods applied in completing the Actuarial Valuation. These methods are fully consistent with other defined benefit plans administered by CPRB. The third section describes the actuarial assumptions applied in projecting the future behavior of EMSRS members and projecting the expected benefit payments in future years. These actuarial assumptions are recommended to the Board by the Board Actuary for EMSRS. The assumptions were selected for consistency with PERS and other public safety plans. The Board Actuary believes they provide a reasonable basis for the Actuarial Valuation of EMSRS. Experience based assumptions cannot be developed through a full experience study until several years of experience data can be gathered. It should be noted that since EMSRS is a “newer” plan, experience for an experience study must be built up over the first 5 years of operations. The interest rate assumption is 7.5%, the rate adopted by the Board for all other defined benefit plans administered by the Board.

Table 1
Development of Valuation Results

	<u>July 1, 2010</u>	<u>July 1, 2009</u>
1. Member Counts		
a. Actives	525	511
b. Regular and Disability Retirees	0	0
c. Vested Terminated	27	16
d. Non-Vested Withdrawals Pending	75	56
e. Total Members	<u>627</u>	<u>583</u>
2. Present Value of Future Benefits		
a. Actives	\$48,768,000	\$42,487,000
b. Regular Retirees	\$0	\$0
c. Disabled Retirees	\$0	\$0
d. Vested Terminated	\$1,166,000	\$1,287,000
e. Non-Vested Withdrawals Pending	\$175,000	\$126,000
f. Total PV Future Benefits	<u>\$50,109,000</u>	<u>\$43,900,000</u>
3. Actuarial Accrued Liability	\$31,503,000	\$26,969,000
4. Assets (Market Value)	<u>\$23,662,000</u>	<u>\$17,173,000</u>
5. Unfunded Actuarial Accrued Liability	\$7,841,000	\$9,796,000
6. Annual Normal Cost Percentage Rate		
a. Present Value of Future Normal Cost	\$18,606,000	\$16,931,000
b. Present Value of Future Compensation	\$160,183,000	\$153,247,000
c. Plan Normal Cost Percentage Rate	11.62%	11.05%
d. Member Contribution Rate	8.50%	8.50%
e. Employer Normal Cost Rate	3.12%	2.55%
f. Valuation Compensation FY2011 / (FY2010)	\$21,362,000	\$20,338,000
7. Calculated Employer Cost FY2011 / (FY2010)		
a. Amortization Payment on UAAL MOY (28/29 years)	\$654,000	\$808,000
b. Employer Normal Cost MOY	\$691,000	\$537,000
c. Total Employer Cost MOY	<u>\$1,345,000</u>	<u>\$1,345,000</u>
d. Employer Cost as Percent of Compensation	6.30%	6.61%
8. Expected Employer Contributions FY2011 / (FY2010)		
a. Employer Contribution Rate	10.50%	10.50%
b. Employer Contribution MOY	\$2,243,000	\$2,135,000
c. Additional Required Contribution	(\$898,000)	(\$790,000)
d. Additional Percent of Payroll Required	-4.20%	-3.89%

Table 2
Projection of Unfunded Actuarial Accrued Liability Amortization

Fiscal Year	Unfunded Actuarial Liability (BOY)	Employer Normal Cost (MOY)	Scheduled UAAL Amortization Payments (MOY)	Total Employer Contributions (MOY)	Unfunded Actuarial Liability (EOY)
2011	\$7,841,000	\$691,000	\$654,000	\$1,345,000	\$7,751,000
2012	\$7,751,000	\$712,000	\$654,000	\$1,366,000	\$7,654,000
2013	\$7,654,000	\$733,000	\$654,000	\$1,387,000	\$7,550,000
2014	\$7,550,000	\$755,000	\$654,000	\$1,409,000	\$7,438,000
2015	\$7,438,000	\$778,000	\$654,000	\$1,432,000	\$7,318,000
2016	\$7,318,000	\$801,000	\$654,000	\$1,455,000	\$7,189,000
2017	\$7,189,000	\$825,000	\$654,000	\$1,479,000	\$7,050,000
2018	\$7,050,000	\$850,000	\$654,000	\$1,504,000	\$6,901,000
2019	\$6,901,000	\$876,000	\$654,000	\$1,530,000	\$6,740,000
2020	\$6,740,000	\$902,000	\$654,000	\$1,556,000	\$6,567,000
2021	\$6,567,000	\$929,000	\$654,000	\$1,583,000	\$6,381,000
2022	\$6,381,000	\$957,000	\$654,000	\$1,611,000	\$6,181,000
2023	\$6,181,000	\$986,000	\$654,000	\$1,640,000	\$5,966,000
2024	\$5,966,000	\$1,016,000	\$654,000	\$1,670,000	\$5,735,000
2025	\$5,735,000	\$1,046,000	\$654,000	\$1,700,000	\$5,487,000
2026	\$5,487,000	\$1,077,000	\$654,000	\$1,731,000	\$5,220,000
2027	\$5,220,000	\$1,109,000	\$654,000	\$1,763,000	\$4,933,000
2028	\$4,933,000	\$1,142,000	\$654,000	\$1,796,000	\$4,625,000
2029	\$4,625,000	\$1,176,000	\$654,000	\$1,830,000	\$4,294,000
2030	\$4,294,000	\$1,211,000	\$654,000	\$1,865,000	\$3,938,000
2031	\$3,938,000	\$1,247,000	\$654,000	\$1,901,000	\$3,555,000
2032	\$3,555,000	\$1,284,000	\$654,000	\$1,938,000	\$3,144,000
2033	\$3,144,000	\$1,323,000	\$654,000	\$1,977,000	\$2,702,000
2034	\$2,702,000	\$1,363,000	\$654,000	\$2,017,000	\$2,227,000
2035	\$2,227,000	\$1,404,000	\$654,000	\$2,058,000	\$1,716,000
2036	\$1,716,000	\$1,446,000	\$654,000	\$2,100,000	\$1,167,000
2037	\$1,167,000	\$1,489,000	\$654,000	\$2,143,000	\$576,000
2038	\$576,000	\$1,534,000	\$654,000	\$2,188,000	\$0

Employer Normal Cost Increase Factor Assumed to be 3.0% Annually.

Table 3
Estimated Progress of Pension Plan from Fiscal Year 2011 through 2030

Fiscal Year	Trust Fund Market Value of Assets (BOY)	Member and Employer Contributions (MOY)	Projected Benefit Related Payments (MOY)	Investment Income (EOY)	Trust Fund Market Value of Assets (EOY)
2011	\$23,662,000	\$4,059,000	\$268,000	\$1,914,000	\$29,367,000
2012	\$29,367,000	\$4,181,000	\$602,000	\$2,334,000	\$35,280,000
2013	\$35,280,000	\$4,306,000	\$873,000	\$2,772,000	\$41,485,000
2014	\$41,485,000	\$4,435,000	\$1,094,000	\$3,234,000	\$48,060,000
2015	\$48,060,000	\$4,568,000	\$1,370,000	\$3,722,000	\$54,980,000
2016	\$54,980,000	\$4,705,000	\$1,670,000	\$4,235,000	\$62,250,000
2017	\$62,250,000	\$4,846,000	\$1,998,000	\$4,774,000	\$69,872,000
2018	\$69,872,000	\$4,991,000	\$2,318,000	\$5,339,000	\$77,884,000
2019	\$77,884,000	\$5,141,000	\$2,653,000	\$5,933,000	\$86,305,000
2020	\$86,305,000	\$5,295,000	\$2,948,000	\$6,559,000	\$95,211,000
2021	\$95,211,000	\$5,454,000	\$3,324,000	\$7,219,000	\$104,560,000
2022	\$104,560,000	\$5,618,000	\$3,659,000	\$7,914,000	\$114,433,000
2023	\$114,433,000	\$5,787,000	\$4,044,000	\$8,647,000	\$124,823,000
2024	\$124,823,000	\$5,961,000	\$4,454,000	\$9,417,000	\$135,747,000
2025	\$135,747,000	\$6,140,000	\$4,830,000	\$10,229,000	\$147,286,000
2026	\$147,286,000	\$6,324,000	\$5,257,000	\$11,086,000	\$159,439,000
2027	\$159,439,000	\$6,514,000	\$5,680,000	\$11,989,000	\$172,262,000
2028	\$172,262,000	\$6,709,000	\$6,124,000	\$12,941,000	\$185,788,000
2029	\$185,788,000	\$6,910,000	\$6,499,000	\$13,949,000	\$200,148,000
2030	\$200,148,000	\$7,117,000	\$6,868,000	\$15,020,000	\$215,417,000

- 1 - Assumes Member contribution rate of 8.5% and Employer contribution rate of 10.5% throughout projection period.
- 2 - Total payroll on which Member and Employer contributions are paid are assumed to increase at a net 3.0% annually.
- 3 - Distributions through 2011 reflect terminated member contribution withdrawals only.
- 4 - Benefit related payments commencing in 2012 include all retirement, disability, survivor, death and withdrawal payments for members in the July 1, 2010 actuarial valuation. They do not anticipate new membership first entering after that date

Table 4
GASB-25 and GASB-27 Supplementary Disclosure Information as of July 1, 2010

Government Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer(s). The following information is intended to be used for this purpose in conjunction with other information prepared by the auditor.

1. Number of Members as of July 1, 2010.

Group	7/1/2010	7/1/2009
a. Regular and disabled retirees and beneficiaries currently receiving benefits	0	0
b. Terminated employees entitled to benefits but not yet receiving payments	27	16
c. Terminated employees entitled to a return of employee contributions	75	56
d. Active members vested in Plan benefits	251	245
e. Active members not vested in Plan benefits	274	266
f. Total Plan membership	627	583

2. Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b-a)/(c)
1/1/2008	\$14,323,000	\$19,492,000	\$5,169,000	73.5%	\$17,181,000	30.1%
7/1/2008	\$15,675,000	\$21,207,000	\$5,532,000	73.9%	\$17,525,000	31.6%
7/1/2009	\$17,173,000	\$26,969,000	\$9,796,000	63.7%	\$20,338,000	48.2%
7/1/2010	\$23,662,000	\$31,503,000	\$7,841,000	75.1%	\$21,362,000	36.7%

3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at July 1, 2010. Additional information follows:

Valuation date	July 1, 2010
Actuarial cost method	Entry Age Normal w/ Aggregate Normal Cost Level Percentage of Payroll
Amortization method	Level dollar amortization over funding period.
Remaining amortization period	28 Years
Actuarial assumptions:	
Investment rate of return	7.5% annual effective rate
Projected salary increases	By age from 5.0% at age 30 declining to 3.5% at age 65.
Inflation rate	3.0% annual underlying inflation

Table 5
Valuation Assets as of July 1, 2010

	June 30, 2010	June 30, 2009
Assets		
Cash	\$0	\$0
Investments at Fair Value	\$23,345,000	\$16,870,000
Contributions Receivable	\$317,000	\$303,000
Prepaid Expenses	\$0	\$0
Total Assets	\$23,662,000	\$17,173,000
Liabilities		
Accrued Expenses and Payables	\$0	\$0
Net Assets for Pension Benefits	\$23,662,000	\$17,173,000
Audit Adjustment		
Post Valuation Audit Adjustment	\$0	\$0
Net Audited Assets for Pension Benefits	\$23,662,000	\$17,173,000

Table 6
Statement of Changes in Net Assets for Benefits
for Year Ended June 30, 2010

Net Assets Beginning of Year		\$17,173,000
Additions		
Contributions		
Member	\$1,773,000	
Employer	\$2,190,000	
Member Repay and Purchase	\$27,000	
Subtotal	\$3,990,000	
Net Appreciation Fair Value		\$2,704,000
Other Income		\$1,000
Annuity Payable		\$0
Total Additions		\$6,695,000
Deductions and Transfers		
Benefit Expense	\$0	
Refunds of Contributions	\$171,000	
Administrative Expenses	\$35,000	
Transfers (to)/from Plan	\$0	
Total	\$206,000	
Net Increase		\$6,489,000
Net Assets for Pension Benefits - EOY		\$23,662,000
Actuarial Net Rate of Return		13.99%
Return Rate per IMB		15.68%

Table 7

Reconciliation of Plan Members as of July 1, 2010

	Actives	Non Vested Terminations	Vested Terminations	Retirees Disabilities Beneficiaries	Total Members
Census Last Year	511	56	16	0	583
New Entrants	69				69
Return to Active Status	15	-13	-2		0
Retired					0
Died					0
Terminated - Vested	-14		14		0
Terminated - Non Vested	-37	37			0
Terminated - Withdrawn	-19	-5	-1		-25
New Beneficiaries					0
QDRO's					0
Adjustments					0
Census This Year	525	75	27	0	627

Table 8

Number and Total Annual Compensation for Active Members at July 1, 2010

Attained Age	Years of Credited Service													Totals	
	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&OVER	Number & Total Pay	Number & Total Pay	Number & Total Pay		
Under 25	17 \$534,755	30 \$1,049,799	3 \$138,971											50 \$1,723,525	
25 to 29	15 \$562,401	44 \$1,454,180	17 \$655,554	1 \$26,246										77 \$2,698,381	
30 to 34	7 \$182,382	41 \$1,405,007	22 \$863,985	14 \$588,006										84 \$3,039,380	
35 to 39	10 \$406,254	44 \$1,676,760	30 \$1,245,163	14 \$555,400	11 \$497,215									109 \$4,380,792	
40 to 44	3 \$66,749	28 \$1,172,846	18 \$690,519	11 \$472,180	12 \$486,984	6 \$287,119								78 \$3,176,397	
45 to 49	4 \$133,767	19 \$542,439	6 \$202,117	3 \$102,105	15 \$650,698	8 \$325,079	2 \$119,562							57 \$2,075,767	
50 to 54	2 \$46,075	7 \$305,344	9 \$404,700	7 \$235,808	6 \$251,630	1 \$99,023	6 \$297,870	5 \$218,819						43 \$1,859,269	
55 to 59		3 \$145,731	5 \$226,483	1 \$35,619	4 \$141,639	4 \$192,112	1 \$68,807	1 \$54,851						19 \$865,242	
60 to 64			3 \$138,562		2 \$125,882		1 \$47,904							6 \$312,348	
65 & Over			1 \$19,823		1 \$61,480									2 \$81,303	
Totals	58 \$1,932,383	216 \$7,752,106	114 \$4,585,877	51 \$2,015,364	51 \$2,215,528	19 \$903,333	10 \$534,143	6 \$273,670	0 \$0	0 \$0				525 \$20,212,404	

Note: Pay is year ending June 30, 2010.

Table 9

Distribution of the Number and Average Annual Benefits
of Retired Members as of July 1, 2010

Current Age	Regular Retirees and Beneficiaries *			Disabled Retirees			Total Receiving Retiree Benefits		
	Number	Average Age	Average Annual Benefit	Number	Average Age	Average Annual Benefit	Number	Average Age	Average Annual Benefit
Under 30									
30 to 34									
35 to 39									
40 to 44									
45 to 49									
50 to 54									
55 to 59									
60 to 64									
65 to 69									
70 to 74									
75 to 79									
80 to 84									
85 to 89									
90 to 94									
95 & Over									
Totals	0	0	\$0	0	0	\$0	0	0	\$0
Total Annual Benefits			\$0			\$0			\$0

* Regular retirements are first allowed beginning January 1, 2011.

Table 10

**Distribution of the Number and Average Annual Benefits
of Vested Terminated Members as of July 1, 2010**

Terminated Members Entitled to Deferred Benefits			
Current Age	Number	Average Age	Average Annual Benefit
Under 30	3	28	\$4,830
30 to 34	4	31	\$4,208
35 to 39	3	39	\$6,616
40 to 44	5	42	\$10,510
45 to 49	5	47	\$10,082
50 to 54	5	52	\$14,397
55 to 59	1	56	\$10,684
60 to 64	1	63	\$21,055
65 to 69			
70 to 74			
75 to 79			
80 to 84			
85 to 89			
90 to 94			
95 & Over			
Totals	27	43	\$9,550
Total Annual Benefits			\$257,850

Summary of the Benefit Provisions of the Plan

Definitions

1. **Plan:** West Virginia Emergency Medical Services Retirement System (EMSRS) as set forth under West Virginia Code section 16-5V originally effective January 1, 2008 and as may be amended from time to time.
2. **Membership:** Anyone first employed by any participating employer on or after the effective date of the Plan under Covered Employment in emergency medical services shall be eligible for membership in this Plan only. Any member in Covered Employment in emergency medical services who was employed by any participating employer before the effective date of this Plan had the right to elect participation in this plan starting on the effective date or to remain in their current plan.
3. **Average Compensation:** Average of the highest five consecutive plan years of compensation received during the last ten years.
4. **Service:** Service in the year of hire and the year of termination of employment shall be credited at one-twelfth of a year for each month in such year that at least one hour was worked. In all completed years of employment a member shall be credited with one year of service upon completing 1,500 or more hours of employment during such year. A partial year credit shall be granted to a member working at least 500 but less than 1,500 hours. PERS members who transferred to EMSRS on the effective date shall have their service while a PERS member included in determining EMSRS service credits. Members who transferred to EMSRS but were not in PERS receive service credits starting on the effective date only. Such members had the right to purchase eligible past service for EMSRS benefits through a payment of 60% of the Actuarial Accrued Liability for such service valued under the methods and assumptions applied in the initial actuarial valuation for EMSRS as of January 1, 2008. The purchase must have commenced no later than December 31, 2008 and be fully paid within five years.
5. **Disability Service:** For members who have their benefit recalculated at age 60 or 65 following disability retirement, the recalculation shall credit half time service during the period which the member received disability retirement payments prior to the recalculation date.

6. **Annual or Sick Leave Service Credit:** A retiring member may convert any unused annual leave or sick leave to additional retirement benefit service credits. Leave credits are doubled and converted to service credits at the rate of one additional month for each twenty days of credit, rounded to the nearest month. Annual or sick leave converted to additional months of service credits may not additionally be used for any other purpose, including conversion to health insurance coverage.
7. **Military Service:** A retiring member may claim up to five years of qualified military service occurring prior to or during EMSRS covered employment. Such military service may not be credited under any other governmental or military plan.
8. **Cashed Out and Reinstated Service:** A member who cashed out their member contributions at a prior termination of employment shall not receive any credits for service during the prior employment period. A member who is rehired may reinstate such service credits by repayment of the prior cash out with interest within sixty months of being rehired.

Contributions

1. **Member Contributions:** Members contribute 8.5% of their gross compensation to EMSRS through payroll deduction by their employer. Members are fully vested in the member contribution account which is credited with interest at a rate of 4%. If EMSRS has a funding percentage of less than 70% on July 1, 2012, the CPRB may temporarily raise the member contribution rate to 10.5% until a future valuation demonstrates that the 70% funded level has been obtained.
2. **Employer Contributions:** Each local employer contributes 10.5% of members' gross compensation to EMSRS each payroll period.

Normal Retirement Benefits

1. **Eligibility for Normal Retirement:** Regular retirement shall not be available under EMSRS until on and after January 1, 2011. Thereafter, a member may retire with unreduced benefits under EMSRS upon attaining any of the following eligibility requirements:
 - a. Retirement from active employment following the attainment of age 50 and a total of age plus years of service of 70 or more.
 - b. Retirement from active employment following the attainment of age 60 and completion of 10 or more years of service.
 - c. From active employment or deferred termination with vested benefits upon attainment of age 50 and 20 years of service or age 62 and 5 years of service.

2. **Normal Retirement Benefit:** A monthly benefit equal to one-twelfth of the annual benefit calculated as:
 - a. 2.6% of Average Compensation for each of the first 20 years of service credit; plus,
 - b. 2.0% of Average Compensation for years 21 through 25, if any; plus,
 - c. 1.0% of Average Compensation for years 26 through 30, if any.
 - d. Maximum benefit of 67.0% of Average Compensation.
 - e. If the EMSRS funded percentage on an actuarial valuation date equals or exceeds 75%, the percentage for the first 20 years shall be increased from 2.6% to 2.75% and the maximum benefit shall be increased to 70.0% of Average Compensation. The increase shall be first recognized in the actuarial valuation following the valuation in which the 75% funding level target has been reached.
3. **Normal Form of Benefit:** A monthly benefit payable for the life of the member. If the member dies prior to receiving their full member contribution account balance at retirement, the remainder of the member contribution account balance shall be payable as a death benefit.
4. **Optional Benefit Forms:** A member may elect to receive benefits under one of the optional forms available under EMSRS. All optional forms are calculated so that the payments under the optional form have the same actuarial present value as the normal retirement benefit for the life of the member. If not the spouse of the member, the elected beneficiary must be a natural person with an insurable interest in the member.
 - a. A reduced monthly benefit for the life of the member with a continuation percentage to the beneficiary selected by the member following the death of the member. The continuation percentage to the beneficiary of 50%, 66.67%, 75% or 100% is selected by the member at retirement and is payable for the life of the beneficiary.
 - b. A reduced monthly benefit payable for the life of the member. Upon the death of the member prior to receiving 120 monthly benefit payments, the remainder of the 120 payments shall be payable to the beneficiary of or the estate of the member.

Early Retirement Benefits

1. **Eligibility for Early Retirement:** A member who terminates employment after attaining age 45 but prior to attainment of age 50 and who has completed 20 or more years of service is eligible for Early Retirement.

- 2. Early Retirement Benefit:** A member who retires under Early Retirement is eligible for the Normal Retirement Benefit accrued as of termination of employment with a deferred starting date of age 50. The member may elect an immediate commencement which shall cause the Normal Retirement Benefit to be actuarially reduced from age 50 to the benefit commencement age.

Deferred Vested Benefits

- 1. Eligibility for Deferred Vested Benefit:** A member who terminates employment after completing five or more years of service but prior to attaining eligibility for Normal or Early retirement shall be entitled to a Deferred Vested Benefit.
- 2. Amount of Deferred Vested Benefit:** A Deferred Vested Benefit in the amount of the Normal Retirement Benefit as of the date of termination of employment is payable starting at age 62. A member with 20 or more years may commence benefits at age 50.

Disability Benefits

- 1. Eligibility for Disability Benefit:** A member who becomes unable to perform any substantial gainful employment shall be considered disabled upon the concurrence of a medical review. If the member is found to be medically unable to perform any gainful employment, the member shall be eligible for Disability Retirement benefits.
- 2. Duty Related Disability Benefits:** A member who becomes disabled due to injuries which are duty related shall be eligible for Duty Disability Retirement. A monthly disability benefit equal to 90% of current compensation prior to disability is payable prior to age 65. At age 65, the benefit shall be recalculated under the Normal Retirement Benefit provisions taking into account service prior to disability plus Disability Service credits while receiving disability benefits prior to age 65.
- 3. Non-Duty Related Disability Benefits:** A member who becomes disabled due to injuries not duty related shall be eligible for a Non-duty Disability Retirement. A monthly disability benefit equal to 66.67% of current compensation prior to disability payable through the attainment of age 60. After age 60 the benefit shall be recalculated under the Normal Retirement Benefit provisions taking into account service prior to disability plus Disability Service credits while receiving disability benefits prior to age 60.

Pre-retirement Death Benefits

1. **Eligibility:** The Surviving Spouse of an actively employed member who dies after completing 10 or more years of service shall be eligible for a death benefit. If the member's death is duty related, the 10 year requirement does not apply. If a member is receiving Duty Disability Retirement benefits and dies prior to recalculation at age 65, a duty death benefit shall be payable to the Surviving Spouse at death.
2. **Duty Related Death Benefit:** Payable if the member's death is from a duty related cause.
 - a. **Surviving Spouse at Death:** 66.67% of annual pay plus \$100 per month for each dependent child. If actively employed and eligible for Normal Retirement Benefit at death, if greater, the continuation under a 100% Joint and Survivor option based on retirement at death shall be payable.
 - b. **Children at Death:** If no Surviving Spouse, then each dependent child receives a pro-rata portion of what the death benefit to the Spouse would have been.
3. **Non-duty Death Benefit:** Payable if the member's death is not duty related.
 - a. **Surviving Spouse at Death:** 50% of annual pay plus \$100 per month for each dependent child. If actively employed and eligible for a Normal Retirement Benefit at death, if greater, the continuation under a 50% Joint and Survivor option based on retirement at death.
 - b. **Children at Death:** If no Surviving Spouse, then each dependent child receives a pro-rata portion of what the death benefit to the Spouse would have been.
4. **Burial Benefit:** Upon death that is duty related, a \$5,000 lump sum Burial Benefit shall be payable to the surviving spouse or other named beneficiary.

Scholarship Benefit

1. **Eligibility:** Dependent child of a member for which Duty Death Benefits are being paid on behalf of the dependent child.
2. **Scholarship Amount:** Application may be made for a scholarship not to exceed \$6,000 annually for a West Virginia college or university subject to the approval of the Consolidated Public Retirement Board.

Summary of the Valuation Actuarial Methods

Actuarial Valuation Date

The initial actuarial valuation was completed on the effective date of the plan, January 1, 2008. Subsequent valuations are completed each July 1. Actuarial calculations verify the adequacy of the funding through employer and member contribution for the fiscal year corresponding to the Plan year.

Actuarial Cost Method

The valuation is completed applying the Entry Age Normal Cost Method with Aggregate Normal Cost determination. The Actuarial Accrued Liability and the Normal Cost are determined on a level percentage of aggregate expected future payroll basis.

Under the method, the Actuarial Accrued Liability is determined on an individual basis as a level percentage of expected payroll for each member. Inactive liabilities are valued on an accrued benefit basis.

The Total Normal Cost percentage of payroll requirement is calculated by dividing the excess of the Actuarial Present Value of Future benefits over the Actuarial Accrued Liability on an aggregate basis by the aggregate Present Value of Future Compensation for all active members. The Employer Normal Cost Percentage is calculated by subtracting the member contribution rate from the Total Normal Cost Percentage. The Employer Normal Cost is the Employer Normal Cost Percentage multiplied by the expected payroll for the valuation year.

Asset Valuation Method

Trust Fund assets are valued at the reported market value of assets reported by the Investment Management Board for the Trust Fund as of the actuarial valuation date. The market value includes accrued amounts as reflected in the annual accounting for the Trust Fund and included in the CPRB annual report.

Amortization Method for Funding

The funding target for EMSRS is an ARC equal to the Employer Normal Cost plus amortization of the UAAL. The initial UAAL and subsequent experience through June 30 2028 is to be fully amortized over 30 years from July 1, 2008 through June 30, 2038. Amortization payments are calculated as a level dollar amount each year over the remaining 30 year period. Experience on and after June 30, 2028 is amortized as a separate amortization item over 10 years from its determination.

Contributions in excess of the ARC, if any, shall be applied to improve the funded percentage of EMSRS until an actuarially acceptable funding level has been attained.

Summary of the Valuation Actuarial Assumptions

Interest Return and Discount Rate

The interest rate assumption is a return rate of 7.50% annually, net of investment and administrative expenses. This rate is applied for both the net interest return expected to be earned on Trust Fund assets and the discount rate on expected future benefit payments.

Healthy Life Mortality Rates

Active, regular retiree and beneficiary members' mortality is the 1983 Group Annuity Mortality Table with separate rates for males and females.

Disability Retirees Mortality Rates

Members receiving disability retirement benefits mortality is the 1983 Group Annuity Mortality Table with separate rates for males and females, set forward eight years in recognition of increased mortality due to disability.

Salary Scale

Annual salary increases are assumed by age on a unisex basis as follows:

	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
Under 31		1.0500						
	31	1.0490	41	1.0420	51	1.0395	61	1.0370
	32	1.0480	42	1.0415	52	1.0390	62	1.0365
	33	1.0470	43	1.0410	53	1.0385	63	1.0360
	34	1.0460	44	1.0405	54	1.0380	64	1.0355
	35	1.0450	45	1.0400	55	1.0375	65	1.0350
	36	1.0445	46	1.0400	56	1.0375	Over 65	1.0350
	37	1.0440	47	1.0400	57	1.0375		
	38	1.0435	48	1.0400	58	1.0375		
	39	1.0430	49	1.0400	59	1.0375		
	40	1.0425	50	1.0400	60	1.0375		

Payroll Growth Rate

Total annual payroll for the active membership is assumed to increase at 3.0% annually. This growth rate includes projected new hires and is an open group payroll projection rate. This open group growth rate is applied in certain projections contained in the actuarial valuation report tables. The rate does not impact EMSRS liabilities nor the ARC.

Withdrawal Rates

Withdrawal rates predict termination of employment prior to unreduced retirement eligibility. The unisex rates by age are:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.1500	30	.1050	40	.0750	50	.0500
21	.1500	31	.1000	41	.0725	51	.0475
22	.1450	32	.0950	42	.0700	52	.0450
23	.1400	33	.0900	43	.0675	53	.0425
24	.1350	34	.0850	44	.0650	54	.0400
25	.1300	35	.0800	45	.0625	55	.0000
26	.1250	36	.0790	46	.0600		
27	.1200	37	.0780	47	.0575		
28	.1150	38	.0770	48	.0550		
29	.1100	39	.0760	49	.0525		

Disability Rates

Disability rates predict an active member becoming disabled prior to unreduced retirement eligibility. The rates by age and sex are:

<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Age</u>	<u>Males</u>	<u>Females</u>
20	0.00010	0.00010			
21	0.00012	0.00018	36	0.00078	0.00110
22	0.00014	0.00026	37	0.00096	0.00120
23	0.00016	0.00034	38	0.00114	0.00130
24	0.00018	0.00042	39	0.00132	0.00140
25	0.00020	0.00050	40	0.00150	0.00150

Disability Rates - continued

<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Age</u>	<u>Males</u>	<u>Females</u>
26	0.00024	0.00056	41	0.00190	0.00160
27	0.00028	0.00062	42	0.00230	0.00170
28	0.00032	0.00068	43	0.00270	0.00180
29	0.00036	0.00074	44	0.00310	0.00190
30	0.00040	0.00080	45	0.00350	0.00200
31	0.00044	0.00084	46	0.00410	0.00220
32	0.00048	0.00088	47	0.00470	0.00240
33	0.00052	0.00092	48	0.00530	0.00260
34	0.00056	0.00096	49	0.00590	0.00280
35	0.00060	0.00100	50	0.00650	0.00300
			51+	0.00850	0.00650

It is assumed that members eligible for unreduced retirement will elect retirement prior to becoming disabled. It is also assumed that retired members will not become disabled following retirement due to duty related causes incurred prior to retirement.

Disability retirement benefits vary by duty and non-duty causes. Disability retirements are assumed to occur in the following percentages:

Duty Related Disability –	50%
Non-Duty Disability –	50%

Marriage Rate and Composition

In determining the value of pre-retirement spousal death benefits, it is assumed that 80% of all members will be married at death. Males are assumed to be three years older than their female spouse.

Causes of Death for Death Benefits

Deaths from active employment are assumed to be from duty related causes 25% of the time with non-duty causes accounting for the remaining 75%.

Accrual of Future Service

EMSRS employment is considered a full time professional position. All active members are assumed to complete sufficient hours to accrue one year of service in each future year of employment.

Noncontributory Service Credits for Military Service and Unused Leave at Retirement

At Normal or Early retirement, members are assumed to convert a part of their unused sick leave to additional retirement service credits. In addition, allowable military service credits are expected to be claimed for qualifying members. It is assumed that male members will be credited with an additional 7% of their contributory service credits and female members will be credited with an additional 1.75% of their contributory service credits.

Retirement Rates

Members who become eligible for unreduced retirement benefits prior to age 65 are assumed to have a 30% probability of retiring in the year they first become eligible. For years following the year of first eligibility and prior to attaining age 65, an additional 20% are assumed to retire each year. At 65, 100% of remaining members are assumed to retire.

Members who first become eligible for unreduced retirement benefits on or after the attainment of age 65 are assumed to retire in the year they first become eligible.

Plan Contributions

Member and employer contributions are calculated as a percentage of total members' payroll. Amounts are deposited to the Trust Fund on a monthly basis. For interest calculation purposes, all amounts are treated as being deposited on an average of half way through the Plan year.