

**Big Spring Firemen's Relief and Retirement Fund
Retiree Medical Subsidy Plan**

ACTUARIAL VALUATION REPORT

**Actuarial Valuation
as of January 1, 2019
for the Plan Year January 1, 2019 through December 31, 2019**

11-Nov-19

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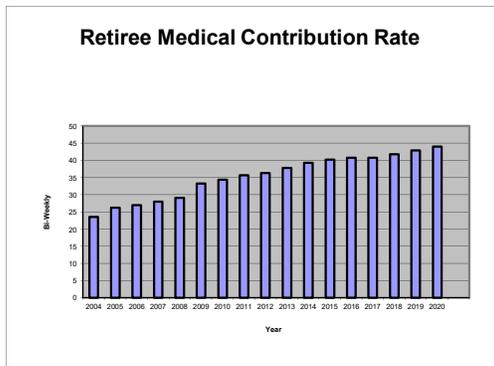
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**Big Spring Firemen's Relief and Retirement Fund
Retiree Medical Subsidy Plan**

HIGHLIGHTS

The bi-weekly contribution rate for the plan has been:

	<u>Contribution</u>	<u>Monthly Benefit</u>		<u>Contribution</u>	<u>Monthly Benefit</u>
1/1/2004	\$23.58	\$250	1/1/2013	\$37.77	\$325
1/1/2005	\$26.26	\$250	1/1/2014	\$39.28	\$340
1/1/2006	\$27.01	\$250	1/1/2015	\$40.18	\$340
1/1/2007	\$27.96	\$250	1/1/2016	\$40.82	\$414
1/1/2008	\$29.09	\$250	1/1/2017	\$40.82	\$414
1/1/2009	\$33.25	\$300	1/1/2018	\$41.84	\$495
1/1/2010	\$34.33	\$300	1/1/2019	\$42.92	\$495
1/1/2011	\$35.70	\$325	1/1/2020	\$43.99	No change
1/1/2012	\$36.32	\$325			



As shown on page 3, the actuarially required contribution rate as of January 1, 2019 to meet the normal cost of the plan and amortize the unfunded actuarial liability over 10 years is \$44.49 per bi-weekly pay period. The current contribution rate of \$43.99 results in an amortization period of 10.30 years which materially meets the funding standard of the plan.

Over the years of the plan's operation the funded level (assets divided by actuarial liability) has increased as follows:

		Funded %	
		<u>Retirees</u>	<u>Total</u>
	1/1/2006	141.9%	18.1%
	1/1/2008	66.9%	36.6%
	1/1/2010	74.1%	44.2%
	1/1/2012	97.0%	50.5%
	1/1/2013	102.7%	55.3%
\$340 level	1/1/2015	118.5%	73.8%
\$410 level	1/1/2015	98.3%	61.2%
\$414 level	1/1/2017	148.6%	74.9%
\$495 level	1/1/2017	124.3%	62.6%
\$495 level	1/1/2019	175.4%	60.4%

The automatic increase provision does not apply because the current amortization period is 10.3 years. No change in plan benefits should be made for 2020 based on the results of the actuarial valuation.

Big Spring Firemen's Relief and Retirement Fund

SUMMARY OF PLAN PROVISIONS

Form of Plan	<p>401(h) arrangement attached to the pension plan</p> <p>A sub-account is maintained in the pension trust fund. This account is credited with retiree medical contributions and a proportionate share of investment earnings. Only retiree medical benefits may be paid from the sub-account.</p>
Participants	<p>All active employees are eligible.</p>
Eligibility	<p>Members retiring at age 50 or older with at least 20 years of service. Benefits are not paid during the DROP period.</p>
Benefits paid	<p><i>After retirement up to age 65</i></p> <p>Reimbursement of retiree medical benefits are payable up to \$414 per month. A \$4,968 annual limit applies to all benefits (prorated in year of retirement and year of reaching age 65). Unused benefits do not carry forward from one year to the next.</p> <p>Qualifying retiree medical benefits include:</p> <ul style="list-style-type: none">- medical premium costs for retiree and spouse- coinsurance and deduction amounts paid by the retiree or spouse- prescription drugs not paid by insurance plan- dental costs not paid by insurance plan- other medical expenses that would be deductible for tax purposes regardless of the income tax threshold
Funding	<p>Contributions are a condition of employment, not optional. The same dollar contribution rate per pay period applies to all members. Contributions are not returned to members who terminate employment before retirement; only retiree medical benefits are paid.</p> <p>Funding may be provided by the members, the City or by both.</p> <p>Contributions are adjusted to meet the actuarial requirements of the plan and will be increased as average pay levels increase. Benefits will not be changed until and unless an actuarial surplus exists.</p> <p>Benefit increases may take place without a formal membership ballot under the following conditions:</p> <ol style="list-style-type: none">1 the benefit level is supported by the actuarial funding level of the plan based on 10-year amortization, consistently applied.2 the trustees approve the increase.3 the benefit level is rounded down to the lower multiple of \$5 per month.

Big Spring Firemen's Relief and Retirement Fund Retiree Medical Subsidy Plan

DEVELOPMENT OF PLAN FUNDING REQUIREMENTS

	1/1/2006	1/1/2008	1/1/2010	1/1/2012	1/1/2013	1/1/2015	1/1/2017	1/1/2019
Benefit Level								
Before age 65 (per month)	\$250	\$250	\$300	\$325	\$325	\$340	\$495	\$495
Age 65 and older	None	None						
Present Value of Benefits								
Active employees								
Retirement	\$387,253	\$258,582	\$275,498	\$420,809	\$425,352	\$366,407	\$593,512	\$751,239
Disability	8,662	6,477	6,877	6,681	6,167	8,059	14,331	20,581
Total actives	\$395,916	\$265,059	\$282,375	\$427,489	\$431,519	\$374,466	\$607,843	\$771,821
Nonactive participants			0		0			
Retirees	46,478	63,633	71,447	127,630	177,866	178,580	395,026	280,396
Beneficiaries	0	0	0	0	0	0	0	0
Disabled	0	0	0	0	0	0	0	0
Deferred vested (DROP status)	0	164,051	227,809	209,401	195,649	217,740	0	0
Total nonactives	46,478	227,684	299,256	337,031	373,515	396,320	395,026	280,396
Total for all participants	\$442,394	\$492,743	\$581,631	\$764,520	\$805,034	\$770,786	\$1,002,869	\$1,052,217
Plan Assets	65,975	152,343	221,811	326,788	383,497	469,656	490,868	491,897
Present Value to be Funded	\$376,419	\$340,400	\$359,820	\$437,732	\$421,538	\$301,130	\$512,001	\$560,320
Defined Benefit Pension Funding (Entry Age Normal)								
Entry age normal cost	\$14,291	\$13,452	\$14,132	\$18,391	\$16,894	\$19,555	\$29,159	\$32,773
EAN Actuarial Liability	\$364,922	\$416,403	\$502,350	\$647,138	\$693,287	\$636,536	\$783,978	\$813,753
Plan Assets	\$65,975	\$152,343	\$221,811	\$326,788	\$383,497	\$469,656	\$490,868	\$491,897
Unfunded Actuarial Liability	\$298,947	\$264,060	\$280,539	\$320,350	\$309,791	\$166,880	\$293,110	\$321,857
Bi-weekly contribution								
Normal cost	\$9.64	\$9.58	\$9.88	\$11.79	\$11.60	\$12.75	\$17.80	\$19.70
10 - year amortization from valuation date	17.35	16.18	19.58	22.34	23.15	13.94	22.94	24.79
Total	\$26.99	\$25.76	\$29.46	\$34.13	\$34.75	\$26.69	\$40.74	\$44.49

Actuarial assumptions

Interest	6% (set 2% less than the pension funding assumption)
Pay increases	4% plus same select period increases as pension valuation
Decrements	Same as pension valuation
Expenses	\$5,000 per year

Funding method

Entry age normal cost plus 10 year amortization of the EAN actuarial liability
The original amortization period was 13 years based on average period to eligibility.
Ten year amortization is selected because it is the average remaining work life of the active employee group.

Big Spring Firemen's
Relief and Retirement Fund - Retiree Medical Subsidy Plan

SUMMARY OF PLAN ASSETS

As of December 31, 2018

Category	12/31/2018		12/31/2017	
	Amount	Percent	Amount	Percent
Cash and Equivalents	\$ 19,462	4%	\$ 21,987	4%
Insurance Contracts	\$ -	0%	\$ -	0%
Equities				
Common Stock	\$ -	0%	\$ -	0%
Collective Funds	147,555	30%	189,571	35%
Foreign Equities	92,895	19%	109,779	20%
Total	\$ 240,450	49%	\$ 299,351	55%
Fixed Income				
Specialty	\$ 88,956	18%	\$ 88,853	16%
Corporate bonds	104,897	21%	115,300	21%
Real Estate	38,105	8%	20,523	4%
Total	\$ 231,958	47%	\$ 224,677	41%
Other - accrued income	27	0%	17	0%
Total Invested Assets	\$ 491,897	100%	\$ 546,032	100%
Contributions Receivable	-		-	
Payables	-		-	
Market Value of Assets	\$ 491,897		\$ 546,032	

Big Spring Firemen's
Relief and Retirement Fund - Retiree Medical Subsidy Plan

RECONCILIATION OF PLAN ASSETS

December 31, 2017 to December 31, 2018

Receipts

Contributions			
Employer	\$	-	
Employee		66,149	
Interest and Dividends		13,759	
Net Realized Appreciation/(Depreciation)		<u>30,469</u>	
Total			\$ 110,377

Disbursements

Benefit Payments	\$	83,230	
Expenses		<u>4,852</u>	
Total			\$ 88,082

Reconciliation

Market Value as of December 31, 2017	\$	546,032	
Excess of Receipts over Disbursements		22,295	
Unrealized appreciation during the year		<u>(76,431)</u>	
Market Value of Invested Assets as of December 31, 2018	\$	491,897	
Contributions Receivable		0	
Payables		<u>0</u>	
Market Value of Assets as of December 31, 2018	\$	491,897	

Average return on assets (BAI method)	before expense	-6.02%
	net of expense	-6.93%

**Big Springs Firemen's
Relief and Retirement Fund - Retiree Medical Subsidy Plan**

AGE AND SERVICE OF ACTIVE PARTICIPANTS

1/1/2019

Age Group	Years of Service							All Service	
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34		35 -
14 - 19									
20 - 24	8								8
25 - 29	8	7							15
30 - 34	9	5	2						16
35 - 39	3	3		1					7
40 - 44		1	1	5	2				9
45 - 49			2	1	3				6
50 - 54				1	1				2
55 - 59									
60 - 64									
65 - 69				1					1
70 -									
Totals	28	16	5	9	6				64

Age is in completed years (age last birthday) on the census date.
Service is completed years of vesting service on the census date.

DROP participants are not included above.

**Big Springs Firemen's
Relief and Retirement Fund - Retiree Medical Subsidy Plan**

SUMMARY OF NONACTIVE PARTICIPANTS

January 1, 2019

Age Group	Males			Females			Total		
	Count	Benefit	Weighted Ave Age	Count	Benefit	Weighted Ave Age	Count	Benefit	Weighted Ave Age
<i>Retired Participants in Payment Status</i>									
50 - 54	1	5,940	54.45				1	5,940	54.45
55 - 59	5	29,700	58.96				5	29,700	58.96
60 - 64	8	47,520	63.41				8	47,520	63.41
Totals	14	83,160	61.18	0	0		14	83,160	61.18
Ave amount		5,940			0			5,940	

**Big Spring Firemen's
Relief and Retirement Fund - Retiree Medical Subsidy Plan**

ACTUARIAL ASSUMPTIONS

Male

Interest Rates		Age	Rates per Thousand				Annual
			Mortality	Turnover	Disability	Retirement	Pay
Purpose	Rate					Increase	
Basic valuation		20	0.410	173.86	0.60	0	4.00%
Before retirement	6.00%	21	0.410	167.66	0.66	0	4.00%
After retirement	6.00%	22	0.400	161.90	0.71	0	4.00%
		23	0.390	156.57	0.76	0	4.00%
Mortality Tables		24	0.380	151.71	0.81	0	4.00%
Before retirement	Pub2010PS	25	0.370	136.99	0.85	0	4.00%
After retirement	Pub2010PS	26	0.380	122.51	0.90	0	4.00%
with cohort projection MP-2018		27	0.390	107.97	0.95	0	4.00%
		28	0.400	93.51	1.00	0	4.00%
Pay Increase Assumption		29	0.410	79.19	1.05	0	4.00%
Annual rates of pay increase		30	0.410	75.01	1.10	0	4.00%
as shown		31	0.420	71.00	1.16	0	4.00%
		32	0.430	67.16	1.22	0	4.00%
Turnover		33	0.440	63.48	1.30	0	4.00%
Age-related rates as shown		34	0.450	59.95	1.38	0	4.00%
		35	0.470	56.56	1.47	0	4.00%
Retirement Age		36	0.490	53.31	1.58	0	4.00%
Rates of retirement as shown		37	0.500	50.18	1.71	0	4.00%
Rates are only applied if the employee		38	0.530	47.15	1.85	0	4.00%
is eligible to retire.		39	0.560	44.22	2.01	0	4.00%
		40	0.590	41.38	2.20	0	4.00%
Other Assumptions		41	0.620	38.58	2.42	0	4.00%
Percent married	100%	42	0.670	35.81	2.66	0	4.00%
Husband/wife age difference	3	43	0.710	33.05	2.93	0	4.00%
		44	0.760	30.30	3.24	0	4.00%
Increase in Social Security		45	0.820	27.54	3.60	0	4.00%
Wage Base	3.00%	46	0.880	24.79	3.99	0	4.00%
		47	0.950	22.01	4.43	0	4.00%
		48	1.020	19.22	4.92	0	4.00%
		49	1.110	16.39	5.46	0	4.00%
		50	1.200	13.53	6.06	0	4.00%
		51	1.290	10.61	6.72	0	4.00%
		52	1.400	7.64	7.45	1000	4.00%
		53	1.510	4.59	8.25	1000	4.00%
		54	1.620	1.67	9.13	1000	4.00%
		55	1.750	0.00	10.09	1000	4.00%

**Big Spring Firemen's
Relief and Retirement Fund - Retiree Medical Subsidy Plan**

CERTIFICATION

This report presents the funded status and plan funding requirements for the plan year ending December 31, 2019, based on an actuarial valuation as of the beginning of the year. This report applies to the Retiree Medical Subsidy Plan only.

Our calculations were based on actuarial assumptions and methods stated in this report, employee census information provided by the FRRF and asset information provided by the trustee.

Actuarial assumptions were updated to reflect the recently published mortality table for public safety participants (from the RP2000 table to the PUB2010Public Safety table. Plan provisions were last changed effective in 2018 to increase the monthly retiree medical subsidy to \$495 per month. Future increases are automatic if approved by the trustees. The amount of the monthly benefit is the level that can be supported on a 10 year funding basis rounded to the lower \$5. The benefit level determined on this basis remains \$495 per month.

November 11, 2019

DEAN ACTUARIES, LLC



Charles E. Dean, FSA



Sean M. Sullivan, FSA