WEST VIRGINIA COLLEGE PREPAID TUITION AND SAVINGS PROGRAM

ACTUARY'S REPORT ON THE SOUNDNESS OF THE WEST VIRGINIA PREPAID TUITION TRUST FUND

JUNE 30, 2013

August 2013

Sherman Actuarial Services

West Virginia College Prepaid Tuition and Savings Program

Actuary's Report on the Soundness of the West Virginia Prepaid Tuition Trust Fund June 30, 2013

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Section I – Executive Summary

Adequacy of the Fund

As of June 30, 2013, the West Virginia Prepaid Tuition Trust Fund (the "Fund") had an unfunded liability of $13,357,159. The unfunded liability represents the difference between the sum of the present value of the expected future tuition and required fees, refunds and the sum of the market value of the assets and the present value of the expected future contract payments. The unfunded liability represents a $2,902,073 decrease over last year's unfunded liability of $16,259,232. The primary sources of change are:

a) Investment asset performance of 9.26% compared to the assumed investment return of 6.1%. The result was an asset gain of $2.3 million. This estimate may vary from the actual asset performance as determined by the investment consultant.
b) Assumption changes on investment return generated a loss of $1.3 million.
c) Tuition increases during the year only increased 6.5% compared to the assumed 9.5%, resulting in a tuition gain of $2.50 million.

The table below summarizes current balances:

Assets	
Cash and Investments	$ 77,069,980
Future Contract Collections	796,059
Total Assets	$ 77,866,039
Liabilities and Surplus	
Future Contract Benefits	$ 91,223,198
Surplus Assets over Liabilities	(13,357,159)
Total Liabilities and Surplus (Deficit)	$ 77,866,039

The Fund's funded ratio is 85.4%, compared to 83.2% last year.

The assumptions used to measure the adequacy of the Fund, which were approved by the Board, are stated in Section IV. The most important assumptions are:

The investment yield and;
The rate of increase in tuition/fees.

An Escrow Account is available to the Fund to cover benefit costs should the Fund become depleted. As of June 30, 2013, the account balance was $16,244,456. If combined with the Trust Fund Assets, the Fund would have a surplus of $2,887,297 and have a Funded Ratio of 103.2%. The funded ratio on this basis last year was 98.8%.

Investment Yield

The investment yield is the expected long-term net earnings rate of return on the assets.

The actuarial valuation of the Fund was determined using the schedule of interest rates found in Section IV. We also assumed the Fund is exempt from federal income tax. It is important to highlight the sensitivity of this analysis to this assumption. As pointed out subsequently, a 25-basis points shortfall in such a goal would place the Fund in a much less favorable position. Additionally, the nature of this type of program involves payment of benefits at fixed future points in time, subjecting the Fund to greater than average investment risk due to short-term fluctuation and in matching investment maturities with expected outlays.

Rate of Increase in Tuition/Fees
The assumed annual increases are shown in Section IV.

Use of Report
This report is prepared solely to assist the Board of the West Virginia College Prepaid Tuition and Savings Program in evaluating the actuarial soundness of the Fund each year. The report is not intended and is not suitable for any other purpose. Accordingly, Sherman Actuarial Services does not intend this report or the data contained therein to be used as personal financial advice. Other readers of this report should consult with their own financial advisors regarding the application of this report to their particular circumstances.

Qualifications
Daniel Sherman is an Associate of the Society of Actuaries, and a Member of the American Academy of Actuaries. He is the current actuary for the Alabama and Texas prepaid tuition plans. He meets the Qualification Standards of the Academy to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

All assumptions were chosen by the Board. In my opinion the actuarial assumptions selected by the Board are reasonable. The Board provided the contract data and asset information.

Sherman Actuarial Services, LLC

Daniel Sherman, ASA, MAAA, EA
Director and Consulting Actuary

SECTION II – Summary of Current Assets

Current Assets

The assets are administered by the State Treasurer's Office and invested by external managers. The value of the assets as of June 30, 2013 is $77,069,980. Asset totals shown below do not include securities lending collateral, investment transfers receivable, tuition contracts receivable or the related obligations for those assets.

Assets held as of June 30, 2013:

U.S. Equities	$23,650,566
International Equities	11,941,039
Fixed Income	41,109,738
Cash and Cash Equivalents held by Hartford	368,637
Total	$77,069,980

It is assumed that this mix will produce a net annual investment return of 5.6% in fiscal year 2013-14.

Investment Strategy

The goal of the investment strategy is to maximize the investment return given the short time horizon for the Fund and the need to avoid investment risk. The Board has determined that the protection of capital is critical and is the best approach for maximizing the Fund's ability to fulfill its contractual obligations to beneficiaries when they matriculate.

Because the Fund is in wind-down, the Fund plans to increase the Fixed Income allocation beginning with fiscal year 2017-18. The table below shows the target allocations by fiscal year for the current and next 10 fiscal years:

	2013-17	2018	2019	2020	2021	2022
Broad Domestic Equity	30%	23%	16%	11%	5%	0%
Global (ex-US) Equity	15%	12%	9%	4%	0%	0%
Domestic Fixed	55%	65%	75%	85%	95%	100%
Total	100%	100%	100%	100%	100%	100%

SECTION III – Plan Description

Overview

The West Virginia College Prepaid Tuition Plan ("Plan") is an Internal Revenue Code Section 529 prepaid tuition plan. It allows the contract holder to lock in the cost of undergraduate college tuition and required fees, thus providing protection against future tuition inflation. The Plan was closed to new contracts in 2003.

In 2003 the Legislature created the Prepaid Tuition Trust Escrow Account to guarantee payment of Prepaid Tuition Plan contracts. The Escrow Account will receive transfers of up to $1,000,000 from the State Unclaimed Property Trust Fund each year there is an actuarially determined unfunded liability of the Prepaid Tuition Plan. If the Prepaid Tuition Plan is unable to pay current tuition benefits, funds may be withdrawn from the Escrow Account to meet those payments. At June 30, 2013, there was $16,244,456 in the Escrow Account.

Contract Units

The contract holder bought units of tuition where one unit is worth one semester of undergraduate tuition plus mandatory fees.

When the beneficiary is ready for college, all of the tuition and required fees will be covered at all four- or two-year public colleges and universities in West Virginia.

The contract can also be used to help pay for tuition at all private colleges in West Virginia and out-of-state institutions. In this case, the participant will receive a benefit that is equal to the Current Tuition Value, which is the average tuition, weighted by enrollment, of all eligible West Virginia Public postsecondary institutions, but excluding those under the purview of the West Virginia Council for Community and Technical Education.

Refunds

For cancellations other than death, disability, or receipt of a scholarship, the purchaser may receive a refund of payments accumulated at the lesser of 1.5% per year less administrative expenses, or the actual investment return of the Trust Fund less administrative expenses.

SECTION IV – Actuarial Methods and Assumptions

Actuarial Methods

The actuarial method projects the expected future cash flows from contract payments, tuition and refund benefits. These projected future cash flows are discounted to the present and compared to the market value of the assets to indicate the soundness of the Fund. The discount rate is equal to the assumed investment yield.

The development of the measurement of soundness has six stages:

> Develop base line average tuition and required fees from data provided by the Fund;
>
> Project average tuition and required fees through the expected term of the contracts, based on assumptions as to future tuition increases;
>
> Determine the nominal cost of expected future tuition and required fees, based on the contract inventory and assumptions as to mortality, disability and utilization of benefits;
>
> Project future contract payments based on the contracts and assumptions as to mortality, disability and voluntary surrender;
>
> Determine the present value of expected future benefits and contract payments, based on the discount rate assumption;
>
> As the indication of soundness, measure the surplus or deficit, which is the difference between the sum of the market value of the assets and the present value of the expected future contract payments and the sum of the present values of the expected future tuition and required fees, and refunds.

Actuarial Assumptions

Necessary adjustments to reflect new information were made to this year's assumptions. The assumptions were approved by either the Board, or the staff of the State Treasurer's Office. The revisions to the assumptions, if any, are noted herein.

Bias Load

A bias load of 8.5% was assumed to account for beneficiaries electing more expensive West Virginia Public schools. It is also assumed that the 75% of beneficiaries will attend a West Virginia Public school. The other 25% of beneficiaries are assumed to attend a Private or out-of-State school.

Investment Yield
The assumed annual net investment yield is shown below. Callan Associates provided the expected returns by fiscal year. Note that these returns reflect an assumption that each year starting in 2018, the Fund will increase the portion of Fixed Income assets. These changes in asset allocation over time reduce the expected investment yield decreases each year until reaching 2.60% in fiscal year 2022.

Fiscal Year	Prior Assumptions	New Assumptions
2013	6.10%	5.60%
2014	5.90%	5.60%
2015	5.80%	5.60%
2016	5.60%	5.60%
2017	5.40%	5.60%
2018	5.20%	4.90%
2019	5.00%	4.30%
2020	4.80%	3.60%
2021	4.70%	2.90%
2022	4.50%	2.60%
2023	4.50%	2.60%
2024+	4.50%	2.60%

Tuition/Fee Increase
Assumed annual increases in future tuition and required fees are shown in the following table.

Fiscal Year	Increase
2014	9.50%
2015+	7.00%

Utilization of Credits
Utilization of credits is assumed to follow the table below. There was no change in this assumption from the previous valuation.

Years Purchased	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	85%	10%	5%							
2	45%	30%	15%	5%	5%					
3	33%	25%	18%	12%	7%	3%	2%			
4	24%	24%	20%	18%	7%	3%	2%	1%	1%	
5	19%	19%	16%	14%	13%	7%	5%	3%	2%	2%

WAT/CTV

Beneficiaries who matriculate at a non-Private in-State school are assumed to receive the Weighted Average Tuition (WAT) for actuarial valuation purposes. Beneficiaries who matriculate at a Private or Out-of-State school receive the Current Tuition Value (CTV). The WAT and CTV for the current and prior valuation are shown in the table below.

School Year	WAT per semester	CTV per semester
2012-2013	$2,572	$2,861
2013-2014	$2,744	$3,035

Expenses

Expenses are no longer paid from the Fund, therefore, no provisions for expenses are included in this actuarial valuation.

Mortality and Disability

Due to the transferability of the contract, there are no mortality or disability assumptions. This is a change from the prior valuation which did not assume any disability decrements but did assume deaths would follow the 1980 U.S. Life Table.

Early Voluntary Surrender of Contract

No early voluntary surrenders of contracts were assumed.

Matriculation Percent

We assumed the beneficiary of a contract, not voluntarily surrendered, matriculates at the date specified in the contract.

Federal Income Tax

We assume the income of the Fund is exempt from Federal Income Tax.

Timing of Tuition Payments

We assume 45% of tuition payments are made on September 1st, 45% on February 1st and 10% on July 1st. The prior valuation assumed 50% on September 1st, 50% on February 1st and 0% on July 1st.

SECTION V – Soundness of the Fund as of June 30, 2013

As a measure of the soundness of the Fund as of June 30, 2013, we determined the difference between the value of the assets and the actuarial present value of the future contract payments and the actuarial present value of future benefits. This measurement of soundness is summarized on the following pages.

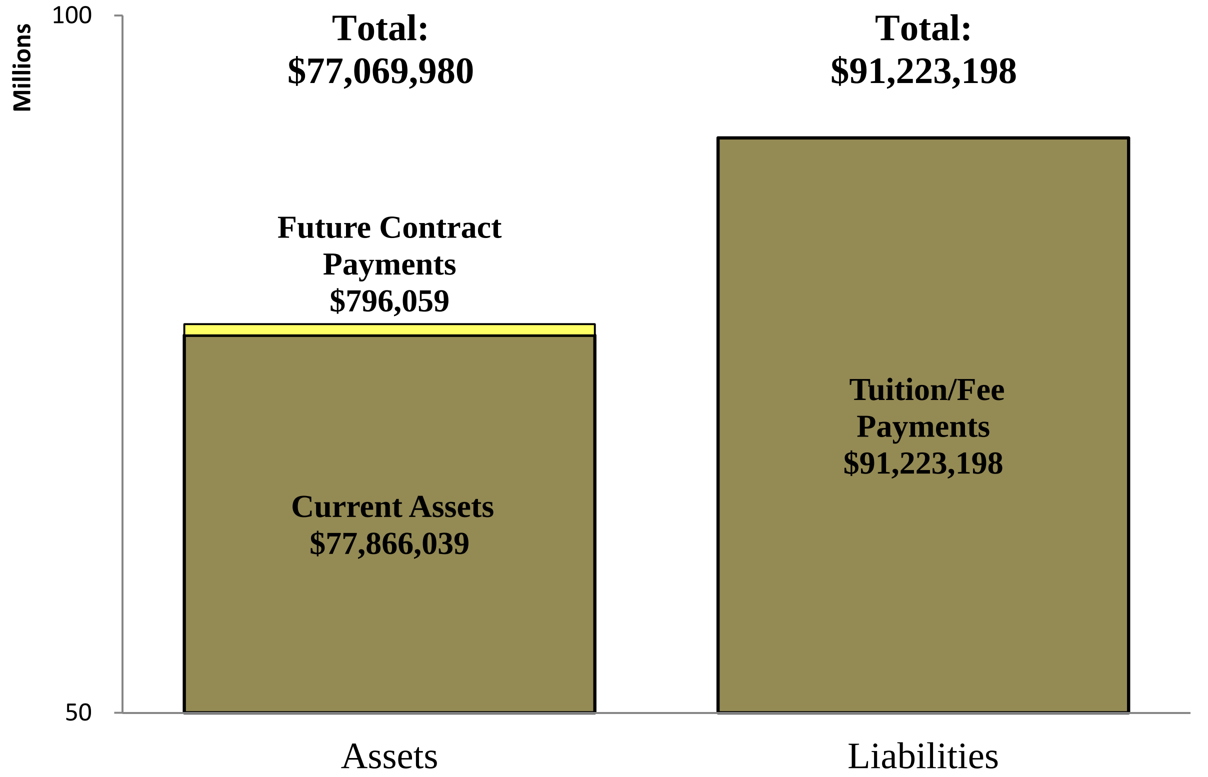
A projection of the status of the Fund at each future anniversary date through the life of these contracts is presented on page 11, labeled Present Value of Assets and Liabilities.

The projections of future benefits and contract payments are presented on page 12, labeled Expected Cash Flows.

Our measurement of the present value and projection are based on asset and contract information provided and on the assumptions chosen by the Board.

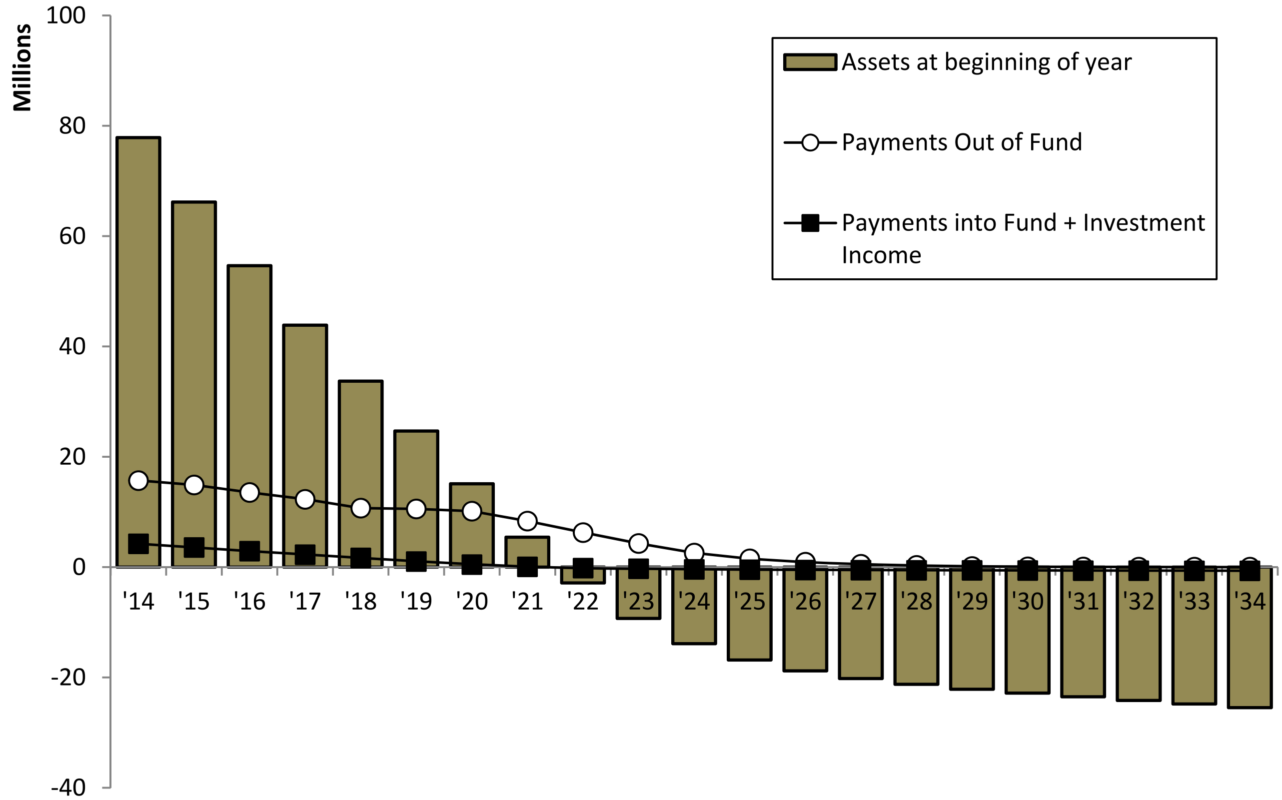
Funded Status

As of June 30, 2013, the value of the liabilities of the trust fund exceeds the assets (including the value of future payments by contract purchasers) by $13,357,159. The funded ratio, assets divided by liabilities, is equal to 85.4%. Asset totals shown below do not include securities lending collateral, investment transfers receivable or the related obligations for those assets. The assumptions used to perform the actuarial valuation of the fund were approved by the Board and are described in Section III.



Cash Flow Projection

The expected income and disbursements of the trust fund, based on the assumptions used in the actuarial valuation, and the current group of contract beneficiaries, are shown below. These amounts are cash amounts, not present value amounts.



Fiscal Year End

Present Value of Assets and Liabilities

6/30 of Year	Present Value of Future Benefits	Value of Assets and Present Value of Future Collections	Surplus of Assets Over Liabilities
2013	91,223,198	77,866,039	(13,357,159)
2014	80,106,289	66,162,408	(13,943,881)
2015	69,203,365	54,631,591	(14,571,774)
2016	59,096,813	43,847,999	(15,248,814)
2017	49,697,159	33,720,739	(15,976,421)
2018	41,422,435	24,661,248	(16,761,187)
2019	32,586,294	15,098,689	(17,487,605)
2020	23,577,036	5,417,509	(18,159,527)
2021	15,897,989	(2,860,165)	(18,758,154)
2022	9,974,829	(9,293,939)	(19,268,768)
2023	5,864,937	(13,884,307)	(19,749,244)
2024	3,412,280	(16,838,214)	(20,250,494)
2025	1,970,139	(18,799,681)	(20,769,820)
2026	1,107,474	(20,198,071)	(21,305,545)
2027	599,296	(21,257,672)	(21,856,968)
2028	289,761	(22,133,962)	(22,423,723)
2029	154,412	(22,851,657)	(23,006,069)
2030	95,474	(23,508,457)	(23,603,931)
2031	51,218	(24,166,196)	(24,217,414)
2032	30,276	(24,816,686)	(24,846,962)
2033	18,023	(25,474,899)	(25,492,922)
2034	9,109	(26,146,585)	(26,155,694)

Expected Annual Cash Flows

Fiscal Year Ending	Benefit Payments	Contract Payment Receipts	Annual Cash Flow
2014	15,709,675	276,780	(15,432,895)
2015	14,899,732	224,706	(14,675,026)
2016	13,537,516	167,702	(13,369,814)
2017	12,305,110	109,279	(12,195,831)
2018	10,706,288	63,122	(10,643,166)
2019	10,562,096	33,509	(10,528,587)
2020	10,153,968	11,796	(10,142,172)
2021	8,351,003	440	(8,350,563)
2022	6,277,017	0	(6,277,017)
2023	4,303,325	0	(4,303,325)
2024	2,565,845	0	(2,565,845)
2025	1,507,766	0	(1,507,766)
2026	900,101	0	(900,101)
2027	528,872	0	(528,872)
2028	320,212	0	(320,212)
2029	140,727	0	(140,727)
2030	62,003	0	(62,003)
2031	46,034	0	(46,034)
2032	21,938	0	(21,938)
2033	12,844	0	(12,844)
2034	9,241	0	(9,241)

Note: The amounts shown above are annual expected amounts for the year corresponding to the “Fiscal Year Ending” column. They are not cumulative amounts. In addition, Payment Receipts are frontloaded.

SECTION VI – Sensitivity Testing

The Program operates under conditions of risk and uncertainty. For example, while it is assumed the assets of the fund will earn the annual net rate found in Section IV, we also expect actual returns to vary from year to year. To accept the reasonableness of the basis for the measurement of the soundness, it is useful to know how the status of the fund may be affected by the vagaries of the markets and other factors. We have rerun the valuation under the following alternative scenarios, and the surplus as of June 30, 2013 under each of these scenarios is presented in the following table:

Scenarios	**Surplus**
Baseline	(13,357,159)
Tuition increases are 25 basis points higher in each future year than assumed	(14,117,632)
The investment return is 25 basis points lower than assumed	(14,221,675)
Tuition increases are 25 basis points higher in each future year and the investment return is 25 basis points lower than assumed	(14,994,183)
Tuition increases are 25 basis points lower in each future year than assumed	(12,605,770)
Tuition increases are 25 basis points lower in each future year and the investment return is 25 basis points lower than assumed	(13,458,433)
The investment return is 50 basis points lower than assumed	(15,101,486)
The investment return is 75 basis points lower than assumed	(15,996,954)
The investment return is 100 basis points lower than assumed	(16,908,447)
Tuition increases are 50 basis points higher in each future year than assumed	(14,887,315)
Tuition increases are 75 basis points higher in each future year than assumed	(15,666,337)
Tuition increases are 100 basis points higher in each future year than assumed	(16,454,827)

SECTION VII – Changes in Surplus

Adequacy of the Fund

As of June 30, 2013, the Fund had an unfunded liability of $13,357,159. The unfunded liability represents the difference between the sum of the present value of the expected future tuition and required fees, refunds and the sum of the market value of the assets and the present value of the expected future contract payments. The unfunded liability represents a $2,902,073 decrease over last year's unfunded liability of $16,259,232.

Following is a comparison of the assumed and the actual results for the year ended June 30, 2013.

Investment Return

Assets performed better than expected during the 2013 fiscal year, returning 9.26% versus the prior year assumption of 6.1%. The result was an asset gain of $2.33 million.

Tuition and Required Fee Increase

The Weighted Average Tuition increased from $2,572 per semester to $2,744, an increase of 6.7% which is lower than the assumed 9.5% increase. This generated a $2.50 million gain.

Assumption Changes

The change in discount rates generated a $1.3 million loss.

Change in Surplus Summary

During the last year, the Fund's deficit decreased from a $16.3 million to $13.4 million. The sources of change are as follows:

Surplus / (Deficit) as of 6/30/2012		$(16,259,232)
Expected increase in deficit		(991,813)
Asset gain (9.26% return)	2,334,342	
Tuition gain	2,504,537	
Other actuarial gain	340,843	
Total actuarial gain		5,179,722
Change in discount rates	(1,285,836)	
Change in assumptions		(1,285,836)
Surplus / (Deficit) as of 6/30/2012		$(13,357,159)

APPENDIX A – Active Contract Units – Total Purchased

Matriculation Year	Purchase Year 1998	1999	2000	2001	2002	Total	% of Total
2002	84					84	0.2%
2003	204	68				272	0.7%
2004	400	109	124			633	1.7%
2005	416	78	108	22		625	1.7%
2006	648	206	140	46	16	1,057	2.9%
2007	693	213	155	62	18	1,141	3.1%
2008	910	310	167	69	48	1,504	4.1%
2009	1,243	383	304	122	65	2,117	5.8%
2010	2,081	636	494	138	68	3,418	9.4%
2011	1,917	759	586	207	64	3,533	9.7%
2012	1,733	785	573	203	32	3,327	9.1%
2013	1,498	528	579	203	117	2,926	8.0%
2014	1,594	648	543	229	95	3,109	8.5%
2015	1,625	525	540	183	169	3,043	8.3%
2016	1,466	578	476	139	101	2,761	7.6%
2017	782	985	468	189	74	2,498	6.8%
2018		916	823	234	123	2,097	5.7%
2019	8		1,131	378	101	1,619	4.4%
2020				198	327	525	1.4%
2021	6	8			118	132	0.4%
2022			8			8	0.0%
2023	8					8	0.0%
2024	10	8				18	0.0%
2025		8				8	0.0%
2027			10			10	0.0%
2030	2						
Total	17,331	7,753	7,230	2,264	1,537	36,475	100.0%
% of Total	47.5%	21.3%	19.8%	7.2%	4.2%	100.0%	

APPENDIX B – Active Contract Units – Remaining

	Purchase Year						
Matriculation Year	**1998**	**1999**	**2000**	**2001**	**2002**	**Total**	**% of Total**
2002	24					24	0.1%
2003	76	34				111	0.4%
2004	170	68	54			293	1.0%
2005	159	31	43	9		242	0.8%
2006	222	95	68	24	10	418	1.4%
2007	296	83	77	25	7	488	1.7%
2008	425	142	72	26	21	685	2.4%
2009	608	205	156	77	39	1,085	3.8%
2010	1,018	353	258	69	33	1,731	6.0%
2011	1,223	490	380	135	47	2,276	7.9%
2012	1,439	662	483	170	27	2,781	9.6%
2013	1,498	528	578	203	116	2,924	10.1%
2014	1,594	648	543	229	95	3,109	10.8%
2015	1,625	524	540	183	169	3,042	10.5%
2016	1,460	572	476	139	101	2,748	9.5%
2017	782	980	468	189	70	2,490	8.6%
2018		916	823	234	123	2,097	7.3%
2019	6		1,131	378	101	1,617	5.6%
2020				198	327	525	1.8%
2021	6	8			118	132	0.5%
2022			8			8	0.0%
2023	8					8	0.0%
2024	10	8				18	0.1%
2025		8				8	0.0%
2027			10			10	0.0%
2030	2					2	0.0%
Total	12,653	6,357	6,168	2,290	1,404	28,872	100.0%
% of Total	43.8%	22.0%	21.4%	7.9%	4.9%	100.0%	