

**Automotive Industries Pension Plan  
Checklist Item #7**

**Does the application include the plan actuary's certification that the plan is projected to avoid insolvency if the suspension takes effect and the supporting illustrations, including:**

- **the plan-year-by-plan-year projections demonstrating projected solvency during the relevant period,**
- **a description of the assumptions used, including the new entrant profile, the total contribution base units, and the average contribution rates, and**
- **separately identifying the available resources (and the market value of assets and changes in cash flow) during each of those years?**

**See section 3.02.**

The application filed on behalf of the Automotive Industries Pension Plan includes an Actuarial Certification of Plan Solvency under ERISA Section 305(e)(9)(c)(i) and IRC Section 432(e)(9)(C)(i). This certification includes Exhibit III, which is a year-by-year solvency projection that demonstrates that the Pension Plan is projected to become insolvent in the Plan Year 2029 taking into account the updated financial experience through June 30, 2016. The certification demonstrates in Exhibit IV, that the Pension Plan is projected to avoid insolvency with the proposed Suspension Plan going into effect July 1, 2017. The certification separately provides the market value of assets, contributions, withdrawal liability payments, investment earnings, separately identified benefit payments and plan expenses.

The certification, attached as Document No. 7.1, is based on upon our interpretation of the requirements under Revenue Procedure 2016-27, Section 3.02.

Unless otherwise noted, the above certification is based on the actuarial assumptions and plan of benefits from the actuarial valuation certificate from the Actuarial Valuation and Review as of January 1, 2016. The actuarial valuation is attached as Document No. 7.2.



## **Automotive Industries Pension Plan**

**Actuarial Certification of Plan Solvency under ERISA  
Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) of  
Proposed Benefit Suspensions as of July 1, 2017**



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*September 15, 2016*

*Board of Trustees  
Automotive Industries Pension Plan  
Alameda, CA*

*Dear Trustees:*

*As requested by the Trustees and required by ERISA Section 305(e)(9)(C)(i) and Internal Revenue Code (IRC) Section 432(e)(9)(C)(i) (taking into account regulation §1.432(e)(9)-1 and Revenue Procedure 2016-27), we have completed an actuarial analysis of the Trustees' proposed benefit suspensions under ERISA Section 305 and IRC Section 432 that are permitted because of the Plan's critical and declining status. Based on our analysis, we project that the proposed suspensions of benefits are reasonably estimated to enable the Plan to avoid insolvency within the meaning of ERISA Section 4245 and IRC Section 418E, assuming the suspensions of benefits continue indefinitely and the benefit accrual reduction becomes effective upon the proposed July 1, 2017 suspension effective date in accordance with the terms and effective dates summarized in this certification. In addition, this analysis demonstrates that the requirements under ERISA Section 305(e)(9)(D)(iv) and IRC Section 432(e)(9)(D)(iv) (taking into account regulation §1.432(e)(9)-1 and Revenue Procedure 2016-27) have been satisfied.*


*The attached exhibits outline the projections performed in accordance with the statute, the published regulations thereunder, the assumptions used in the projections, and a summary of the proposed benefit suspensions. These projections have been prepared based on the Actuarial Valuation as of January 1, 2016 and the Actuarial Certification of Plan Status as of January 1, 2016 under IRC Section 432 in accordance with generally accepted actuarial principles and practices and a current understanding of the law. The actuarial calculations were completed under the supervision of Paul C. Poon, ASA, MAAA, EA.*

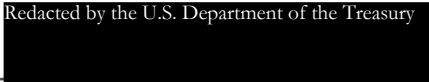
*Board of Trustees  
Automotive Industries Pension Plan  
September 15, 2016  
Page 2*

*Segal Consulting ("Segal") does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which the certification is based reflects Segal's understanding as an actuarial firm. Due to the complexity of the statute and the significance of its ramifications, Segal recommends that the Board of Trustees consult with legal counsel when making any decisions regarding compliance with ERISA and the Internal Revenue Code.*

*Sincerely,*

*Segal Consulting, a Member of The Segal Group*

By:   
*J. Tim Biddle*  
*Senior Vice President*

  
*Paul C. Poon, ASA, MAAA, EA*  
*Vice President & Associate Actuary*

*PXP/hy*

**September 15, 2016**

**ACTUARIAL SOLVENCY CERTIFICATION  
UNDER ERISA SECTION 305(E)(9)(C)(I) AND IRC SECTION 432(E)(9)(C)(I)**

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. (“Segal”), has prepared an actuarial solvency certification under ERISA Section 305(e)(9)(C)(i) and Internal Revenue Code Section 432(e)(9)(C)(i), taking into account regulation §1.432(e)(9)-1 and Revenue Procedure 2016-27, for the Automotive Industries Pension Plan based on participant data as of December 31, 2015 and asset values as of June 30, 2016 in accordance with generally accepted actuarial principles and practices. It has been prepared at the request of the Board of Trustees to assist in meeting the filing and compliance requirements under federal law. This certification may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety.

Based on the items discussed below, the proposed benefit suspensions are reasonably estimated to enable the Plan to avoid insolvency within the meaning of ERISA Section 4245, assuming the suspensions of benefits continue indefinitely and the benefit accrual reduction becomes effective upon the proposed July 1, 2017 suspension effective date in accordance with the terms and effective dates summarized in this certification. In addition, this analysis demonstrates that the requirements under ERISA Section 305(e)(9)(D)(iv) and IRC Section 432(e)(9)(D)(iv) (taking into account regulation §1.432(e)(9)-1 and Revenue Procedure 2016-27) have been satisfied.

Note that, as required by law, this certification is only intended to demonstrate that the proposed Plan changes are reasonably projected to be sufficient to avoid insolvency within the meaning of ERISA Section 4245 and IRC Section 418E. The measurements shown in this actuarial certification are not applicable for other purposes. 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; differences in statutory interpretation; differences in methodology, changes in plan provisions and changes in applicable law. Due to the legal requirements for this certification, it does not include an analysis of such future measurements.

This certification is based on the January 1, 2016 actuarial valuation, dated June 7, 2016, as well as the Actuarial Certification of Plan Status as of January 1, 2016 under IRC Section 432, dated March 30, 2016. This certification reflects the changes in the law made by the Multiemployer Pension Reform Act of 2014 (MPRA), taking into account regulation §1.432(e)(9)-1 and Revenue Procedure 2016-27. As required by IRS regulations, assets were updated to June 30, 2016 based on actual experience. Additional assumptions required for the projections (including those required under MPRA and regulations thereunder), and sources of financial information used are summarized in Exhibit IX. A summary of the proposed benefit suspensions is included in Exhibit X.

Segal Consulting does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretations on which this certification is based reflect Segal’s understanding as an actuarial firm. Based on discussions with the Plan’s legal counsel, it is our understanding that the proposed benefit suspensions satisfy the requirements for such as set forth in MPRA.

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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EIN 94-1133245/ PN 001

This certification was based on the assumption that the Plan was qualified as a multiemployer plan for the year.

I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial certification is complete and accurate. The projected future employment and contribution levels are based on information provided by the plan sponsor. In my opinion, the projections are based on reasonable actuarial estimates, assumptions and methods that (other than projected future employment and contribution information provided by the plan sponsor) offer my best estimate of anticipated experience under the Plan.

Redacted by the U.S. Department of the Treasury

Paul C. Poon, ASA, MAAA  
Vice President & Associate Actuary  
Enrolled Actuary No. 14-06069

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**EXHIBIT I**

**Summary of Key Information and Results**

A summary of key information and of the results of the different tests (and subtests) required for the certification are shown below.

**A. Key Information**

1. Projected year of insolvency without consideration of proposed suspension	December 31, 2029
2. Proposed effective date of suspension of benefits	July 1, 2017
3. End of extended period	December 31, 2062
4. Projected funded percentage (under IRC Section 432(j)(2)) at end of extended period	96.3%*
5. Probability the Plan will avoid insolvency through the extended period	50.3%
6. Number of Plan active participants (based on January 1, 2016 actuarial valuation)	3,923
7. Is the proposed suspension in combination with a partition?	No

\* See Exhibit VII of report titled: *Application under ERISA Section 305(e)(9) and IRC Section 432(e)(9) – Additional Information*

**B. Limitation on aggregate size of suspension**

1. The proposed suspension is reasonably estimated to enable the Plan to avoid insolvency
  - a. The solvency ratio is projected on a deterministic basis to be at least 1.0 for each plan year throughout the extended period. (See Exhibit IV)
  - b. The Plan's projected funded percentage at the end of the extended period does not exceed 100%, but the Plan's solvency ratio and its available resources are not projected to decrease at any time during the last five plan years of the extended period. (See Exhibit IV)
  - c. Based on stochastic projections, the probability that the Plan will avoid insolvency throughout the extended period is more than 50% (see Exhibit V)

**Because of the results summarized in B.1, the proposed suspension of benefits satisfies the requirement that it be reasonably estimated to enable the Plan to avoid insolvency.**

2. The proposed suspension does not materially exceed the level that is necessary to avoid insolvency, as required under Regulation Section 1.432(e)(9)-1(d)(5)(iii)(A)
  - a. The Plan would fail one or more of the tests in B.1 if the dollar amount of the proposed benefits suspension for each participant and beneficiary were 5% smaller. (See Exhibits VI and VII.) Note that we tested only against the 5% test and not the larger of the 5% test and the 2% test. By demonstrating failure based on the 5% test, failure based on the larger of the 5% test and the 2% test is assured.
  - b. The PBGC did not issue an order partitioning the Plan.

**Because of the results in B.2, the proposed suspension of benefits satisfies the requirements that the proposed suspension not materially exceed the level that is necessary to avoid insolvency.**

**The proposed benefit suspension satisfies the limitation on aggregate size of suspension.**



**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT II**

**Development of Projected April 30, 2016 Assets**

The actual change in Market Value of Assets from January 1, 2016 through June 30, 2016 is shown below. Contribution income, benefit payments, and administrative expenses for the period beginning January 1, 2016 and ending June 30, 2016, and the value of assets as of June 30, 2016 was based on an unaudited financial statement provided by the Fund Office. The value of assets was reduced by the withdrawal liability payments receivable.

<b>Year Beginning January 1, 2016</b>			
	<b>From January 1, 2016 Through June 30, 2016</b>	<b>Projected from July 1, 2016 Through December 31, 2016</b>	<b>Total for Plan Year</b>
1. Market Value at beginning of period	\$1,192,990,400	\$1,158,927,465	\$1,192,990,400
2. Contributions	10,747,934	10,835,864	21,583,798
2. Withdrawal liability payments*	927,542	927,542	1,855,084
3. Benefit payments			
(a) New Entrants	-	-	-
(b) Current Active	1,014,162**	1,048,489	2,062,651
(c) Current Inactive Vested	2,033,125**	2,101,942	4,135,067
(d) Current In Pay Status	<u>64,071,884**</u>	<u>66,240,556</u>	<u>130,312,440</u>
(e) Total	67,119,171	69,390,987	136,510,158
4. Administrative expenses	1,221,722	1,545,000	2,766,722
5. Investment earnings/(loss)	<u>22,602,482</u>	<u>26,821,853</u>	<u>49,424,335</u>
6. Market Value at end of period: (1)+(2)+(3)-(4e)-(5)+(6)	1,158,927,465	1,126,576,737	1,126,576,737

\* The expected withdrawal liability payments for the Plan Year was assumed to be payable ratably throughout the year.

\*\* Estimated based on the actual benefit payments from January 1, 2016 through June 30, 2016.

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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**EXHIBIT III**

**Deterministic Projection of Current Plan without Proposed Suspension**

The projected Market Value of Assets and Solvency Ratio for the Plan Years beginning January 1, 2016 through December 31, 2029.

	Year Beginning January 1				
	2016*	2017	2018	2019	2020
1. Market Value at beginning of year	\$1,158,927,465	\$1,126,576,737	\$1,066,552,409	\$1,002,027,690	\$937,051,818
2. Contributions	10,835,864	22,300,208	22,946,915	23,612,375	23,612,375
3. Withdrawal liability payments	927,542	1,770,284	1,724,241	1,682,096	1,528,096
4. Benefit payments					
(a) New Entrants	-	-	-	-	-
(b) Current Active	1,048,489	3,805,204	5,484,115	7,041,627	8,684,194
(c) Current Inactive Vested	2,101,942	6,403,146	9,604,503	13,439,525	17,927,571
(d) Current In Pay Status	66,240,556	129,434,384	126,265,297	123,005,812	119,665,333
(e) Total	69,390,987	139,642,733	141,353,916	143,486,964	146,277,099
5. Administrative expenses	1,545,000	3,148,975	3,205,416	3,261,424	3,323,792
6. Investment earnings	<u>26,821,853</u>	<u>58,696,887</u>	<u>55,363,458</u>	<u>56,478,044</u>	<u>54,676,351</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$1,126,576,737	\$1,066,552,409	\$1,002,027,690	\$937,051,818	\$867,267,749
8. Available resources: (1)+(2)+(3)-(5)+(6)		\$1,206,195,142	\$1,143,381,607	\$1,080,538,782	\$1,013,544,848
9. Solvency ratio: (8) ÷ (4e)		8.638	8.089	7.531	6.929
	2021	2022	2023	2024	2025
1. Market Value at beginning of year	\$867,267,749	\$790,079,849	\$707,240,819	\$615,261,452	\$515,304,771
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,528,096	1,528,096	1,528,096	1,463,863	1,260,964
4. Benefit payments					
(a) New Entrants	-	4,912	13,029	24,770	42,276
(b) Current Active	10,343,869	12,120,154	13,804,416	15,559,584	17,380,960
(c) Current Inactive Vested	22,593,438	28,684,708	34,004,123	38,878,215	43,664,649
(d) Current In Pay Status	116,227,124	112,606,664	108,965,868	105,230,901	101,402,328
(e) Total	149,164,430	153,416,437	156,787,436	159,693,470	162,490,213
5. Administrative expenses	3,386,595	3,447,778	3,509,623	3,571,157	3,632,797
6. Investment earnings	<u>50,222,654</u>	<u>48,884,713</u>	<u>43,177,220</u>	<u>38,231,708</u>	<u>31,127,596</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$790,079,849	\$707,240,819	\$615,261,452	\$515,304,771	\$405,182,697
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$939,244,280	\$860,657,257	\$772,048,888	\$674,998,242	\$567,672,910
9. Solvency ratio: (8) ÷ (4e)	6.297	5.610	4.924	4.227	3.494

\* For the period July 1, 2016 through December 31, 2016.

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT III (continued)**

**Deterministic Projection of Current Plan without Proposed Suspension**

	Year Beginning January 1			
	2026	2027	2028	2029
1. Market Value at beginning of year	\$405,182,697	\$284,852,778	\$153,449,310	\$11,526,643
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,260,964	1,260,964	1,260,964	1,249,588
4. Benefit payments				
(a) New Entrants	67,058	99,456	141,976	195,040
(b) Current Active	18,990,518	20,549,179	22,041,230	23,444,907
(c) Current Inactive Vested	48,307,462	53,232,476	57,209,909	60,304,086
(d) Current In Pay Status	97,477,955	93,460,887	89,355,977	85,170,328
(e) Total	164,842,993	167,341,998	168,749,092	169,114,360
5. Administrative expenses	3,694,798	3,756,618	3,818,087	3,879,343
6. Investment earnings	<u>23,334,533</u>	<u>14,821,810</u>	<u>5,771,173</u>	<u>N/A</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$284,852,778	\$153,449,310	\$11,526,643	Insolvent
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$449,695,771	\$320,791,309	\$180,275,737	\$32,509,265
9. Solvency ratio: (8) ÷ (4e)	2.728	1.917	1.068	0.192

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT IV**

**Deterministic Projection of Proposed Suspension**

The projected Market Value of Assets and Solvency Ratio for the Plan Years beginning January 1, 2016 through December 31, 2062.

	<b>Year Beginning January 1</b>				
	<b>2016*</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
1. Market Value at beginning of year	\$1,158,927,465	\$1,126,576,737	\$1,091,879,545	\$1,074,017,425	\$1,060,175,521
2. Contributions	10,835,864	22,300,208	22,946,915	23,612,375	23,612,375
3. Withdrawal liability payments	927,542	1,770,284	1,724,241	1,682,096	1,528,096
4. Benefit payments					
(a) New Entrants	-	-	-	-	-
(b) Current Active	1,048,489	3,120,912	3,901,097	5,019,760	6,194,139
(c) Current Inactive Vested	2,101,942	5,371,096	6,471,699	8,781,294	11,388,826
(d) Current In Pay Status	66,240,556	106,501,444	86,923,109	84,234,857	81,502,886
(e) Total	69,390,987	114,993,452	97,295,905	98,035,911	99,085,851
5. Administrative expenses	1,545,000	3,148,975	3,205,416	3,261,424	3,323,792
6. Investment earnings	<u>26,821,853</u>	<u>59,374,742</u>	<u>57,968,045</u>	<u>62,160,960</u>	<u>63,846,308</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$1,126,576,737	\$1,091,879,545	\$1,074,017,425	\$1,060,175,521	\$1,046,752,657
8. Available resources: (1)+(2)+(3)-(5)+(6)		\$1,206,872,997	\$1,171,313,331	\$1,158,211,432	\$1,145,838,509
9. Solvency ratio: (8) ÷ (4e)		10.495	12.039	11.814	11.564
	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
1. Market Value at beginning of year	\$1,046,752,657	\$1,031,223,405	\$1,017,861,587	\$1,002,177,426	\$986,635,198
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,528,096	1,528,096	1,528,096	1,463,863	1,260,964
4. Benefit payments					
(a) New Entrants	-	4,912	13,029	24,770	42,276
(b) Current Active	7,377,565	8,635,525	9,843,866	11,099,312	12,406,359
(c) Current Inactive Vested	14,157,332	17,468,562	20,441,863	23,124,989	25,701,549
(d) Current In Pay Status	78,717,203	75,844,297	72,966,740	70,052,772	67,105,806
(e) Total	100,252,100	101,953,295	103,265,498	104,301,843	105,255,990
5. Administrative expenses	3,386,595	3,447,778	3,509,623	3,571,157	3,632,797
6. Investment earnings	<u>62,968,972</u>	<u>66,898,785</u>	<u>65,950,488</u>	<u>67,254,533</u>	<u>66,123,923</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$1,031,223,405	\$1,017,861,587	\$1,002,177,426	\$986,635,198	\$968,743,674
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$1,131,475,505	\$1,119,814,883	\$1,105,442,924	\$1,090,937,041	\$1,073,999,664
9. Solvency ratio: (8) ÷ (4e)	11.286	10.984	10.705	10.459	10.204

\* For the period July 1, 2016 through December 31, 2016.

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT IV (continued)**

**Deterministic Projection of Proposed Suspension**

	Year Beginning January 1				
	2026	2027	2028	2029	2030
1. Market Value at beginning of year	\$968,743,674	\$948,788,698	\$926,580,635	\$904,739,736	\$881,528,538
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,260,964	1,260,964	1,260,964	1,249,588	1,239,796
4. Benefit payments					
(a) New Entrants	67,058	99,456	141,976	195,040	260,156
(b) Current Active	13,589,405	14,747,483	15,878,365	16,956,151	17,888,058
(c) Current Inactive Vested	28,193,506	30,772,132	32,838,052	34,463,600	36,033,891
(d) Current In Pay Status	64,127,637	61,123,999	58,100,836	55,066,096	52,027,990
(e) Total	105,977,606	106,743,070	106,959,229	106,680,887	106,210,095
5. Administrative expenses	3,694,798	3,756,618	3,818,087	3,879,343	3,940,322
6. Investment earnings	<u>64,844,090</u>	<u>63,418,287</u>	<u>64,063,077</u>	<u>62,487,069</u>	<u>60,818,758</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$948,788,698	\$926,580,635	\$904,739,736	\$881,528,538	\$857,049,050
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$1,054,766,305	\$1,033,323,706	\$1,011,698,965	\$988,209,425	\$963,259,146
9. Solvency ratio: (8) ÷ (4e)	9.953	9.680	9.459	9.263	9.069
	2031	2032	2033	2034	2035
1. Market Value at beginning of year	\$857,049,050	\$831,611,664	\$806,769,868	\$781,212,008	\$755,253,310
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,217,664	565,916	347,308	287,020	-
4. Benefit payments					
(a) New Entrants	339,494	434,414	545,342	674,456	823,602
(b) Current Active	18,761,680	19,590,130	20,305,069	20,936,877	21,632,525
(c) Current Inactive Vested	37,242,862	38,175,718	38,957,567	39,571,411	39,963,035
(d) Current In Pay Status	48,995,229	45,977,723	42,985,957	40,030,432	37,123,158
(e) Total	105,339,265	104,177,985	102,793,936	101,213,175	99,542,320
5. Administrative expenses	4,000,730	4,060,712	4,120,543	4,179,808	4,238,670
6. Investment earnings	<u>59,072,570</u>	<u>59,218,610</u>	<u>57,396,935</u>	<u>55,534,891</u>	<u>53,637,675</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$831,611,664	\$806,769,868	\$781,212,008	\$755,253,310	\$728,722,371
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$936,950,929	\$910,947,854	\$884,005,944	\$856,466,486	\$828,264,691
9. Solvency ratio: (8) ÷ (4e)	8.895	8.744	8.600	8.462	8.321

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT IV (continued)**

**Deterministic Projection of Proposed Suspension**

	Year Beginning January 1				
	2036	2037	2038	2039	2040
1. Market Value at beginning of year	\$728,722,371	\$703,633,676	\$678,659,613	\$653,796,860	\$629,262,229
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	993,850	1,185,188	1,401,230	1,639,666	1,905,831
(b) Current Active	22,234,289	22,678,930	23,222,635	23,655,956	24,014,709
(c) Current Inactive Vested	40,331,806	40,428,629	40,328,930	40,020,205	39,651,602
(d) Current In Pay Status	34,276,947	31,503,457	28,814,936	26,223,277	23,740,070
(e) Total	97,836,892	95,796,204	93,767,730	91,539,104	89,312,212
5. Administrative expenses	4,297,436	4,355,928	4,413,957	4,471,719	4,528,884
6. Investment earnings	<u>53,433,258</u>	<u>51,565,694</u>	<u>49,706,559</u>	<u>47,863,817</u>	<u>46,046,460</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$703,633,676	\$678,659,613	\$653,796,860	\$629,262,229	\$605,079,969
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$801,470,569	\$774,455,818	\$747,564,591	\$720,801,333	\$694,392,181
9. Solvency ratio: (8) ÷ (4e)	8.192	8.084	7.973	7.874	7.775
	2041	2042	2043	2044	2045
1. Market Value at beginning of year	\$605,079,969	\$581,305,998	\$559,440,578	\$538,229,828	\$517,820,683
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	2,197,987	2,515,751	2,863,849	3,244,443	3,653,650
(b) Current Active	24,287,193	24,516,531	24,686,413	24,749,646	24,740,974
(c) Current Inactive Vested	39,197,105	38,538,610	37,753,448	36,810,758	35,790,038
(d) Current In Pay Status	21,375,465	19,138,941	17,038,280	15,078,637	13,263,627
(e) Total	87,057,749	84,709,833	82,341,990	79,883,484	77,448,289
5. Administrative expenses	4,586,076	4,642,830	4,699,228	4,755,363	4,811,184
6. Investment earnings	<u>44,257,479</u>	<u>43,874,868</u>	<u>42,218,093</u>	<u>40,617,327</u>	<u>39,079,771</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$581,305,998	\$559,440,578	\$538,229,828	\$517,820,683	\$498,253,356
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$668,363,747	\$644,150,412	\$620,571,818	\$597,704,168	\$575,701,646
9. Solvency ratio: (8) ÷ (4e)	7.677	7.604	7.537	7.482	7.433

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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**EXHIBIT IV (continued)**

**Deterministic Projection of Proposed Suspension**

	Year Beginning January 1				
	2046	2047	2048	2049	2050
1. Market Value at beginning of year	\$498,253,356	\$479,606,970	\$462,019,816	\$445,616,004	\$430,487,560
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	4,094,797	4,571,263	5,083,673	5,625,817	6,202,198
(b) Current Active	24,703,800	24,523,917	24,225,155	23,830,351	23,393,439
(c) Current Inactive Vested	34,608,459	33,325,699	31,944,237	30,491,616	28,974,475
(d) Current In Pay Status	11,595,237	10,073,394	8,695,642	7,458,085	6,355,590
(e) Total	75,002,293	72,494,273	69,948,707	67,405,869	64,925,703
5. Administrative expenses	4,866,481	4,921,670	4,976,551	5,031,241	5,086,045
6. Investment earnings	<u>37,610,013</u>	<u>36,216,415</u>	<u>34,909,070</u>	<u>33,696,291</u>	<u>32,583,030</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$479,606,970	\$462,019,816	\$445,616,004	\$430,487,560	\$416,671,217
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$554,609,263	\$534,514,090	\$515,564,711	\$497,893,429	\$481,596,920
9. Solvency ratio: (8) ÷ (4e)	7.395	7.373	7.371	7.386	7.418
	2051	2052	2053	2054	2055
1. Market Value at beginning of year	\$416,671,217	\$405,263,666	\$395,298,980	\$386,902,871	\$380,109,505
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	6,809,574	7,450,961	8,117,892	8,810,799	9,534,713
(b) Current Active	22,851,266	22,317,831	21,672,537	20,994,051	20,226,471
(c) Current Inactive Vested	27,398,320	25,799,356	24,168,110	22,532,846	20,908,931
(d) Current In Pay Status	5,381,469	4,527,603	3,784,935	3,144,127	2,595,414
(e) Total	62,440,629	60,095,751	57,743,474	55,481,823	53,265,529
5. Administrative expenses	5,140,943	5,196,276	5,252,598	5,309,763	5,368,377
6. Investment earnings	<u>32,561,646</u>	<u>31,714,967</u>	<u>30,987,588</u>	<u>30,385,844</u>	<u>29,914,396</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$405,263,666	\$395,298,980	\$386,902,871	\$380,109,505	\$375,002,370
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$467,704,295	\$455,394,732	\$444,646,346	\$435,591,328	\$428,267,900
9. Solvency ratio: (8) ÷ (4e)	7.490	7.578	7.700	7.851	8.040

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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**EXHIBIT IV (continued)**

**Deterministic Projection of Proposed Suspension**

	Year Beginning January 1				
	2056	2057	2058	2059	2060
1. Market Value at beginning of year	\$375,002,370	\$371,648,647	\$370,067,506	\$370,300,779	\$372,391,508
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	10,280,402	11,041,703	11,822,188	12,612,897	13,411,341
(b) Current Active	19,399,197	18,564,273	17,695,629	16,802,534	15,914,727
(c) Current Inactive Vested	19,307,924	17,743,922	16,228,066	14,770,028	13,378,195
(d) Current In Pay Status	2,129,080	1,735,888	1,406,821	1,133,486	908,130
(e) Total	51,116,604	49,085,787	47,152,703	45,318,945	43,612,393
5. Administrative expenses	5,428,707	5,491,442	5,556,715	5,625,083	5,696,934
6. Investment earnings	<u>29,579,212</u>	<u>29,383,713</u>	<u>29,330,316</u>	<u>29,422,384</u>	<u>29,662,300</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$371,648,647	\$370,067,506	\$370,300,779	\$372,391,508	\$376,356,857
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$422,765,251	\$419,153,293	\$417,453,482	\$417,710,454	\$419,969,251
9. Solvency ratio: (8) ÷ (4e)	8.271	8.539	8.853	9.217	9.630
	2061	2062			
1. Market Value at beginning of year	\$376,356,857	\$382,243,074			
2. Contributions	23,612,375	23,612,375			
3. Withdrawal liability payments	-	-			
4. Benefit payments					
(a) New Entrants	14,209,148	15,003,433			
(b) Current Active	15,013,811	14,124,067			
(c) Current Inactive Vested	12,059,615	10,819,469			
(d) Current In Pay Status	723,703	573,855			
(e) Total	42,006,277	40,520,824			
5. Administrative expenses	5,772,460	5,852,539			
6. Investment earnings	<u>30,052,578</u>	<u>31,523,319</u>			
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$382,243,074	\$391,005,405			
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$424,249,351	\$431,526,229			
9. Solvency ratio: (8) ÷ (4e)	10.100	10.649			



**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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**EXHIBIT V**

**Stochastic Projection of Proposed Suspension**

<b>Year Beginning January 1</b>	<b>Probability of Remaining Solvent Through the Year and All Prior Years</b>	<b>Year Beginning January 1</b>	<b>Probability of Remaining Solvent Through the Year and All Prior Years</b>
2017	100.0%	2040	64.9%
2018	100.0%	2041	62.9%
2019	100.0%	2042	61.4%
2020	100.0%	2043	59.8%
2021	100.0%	2044	58.4%
2022	100.0%	2045	57.2%
2023	100.0%	2046	56.1%
2024	100.0%	2047	55.3%
2025	99.9%	2048	54.4%
2026	99.5%	2049	53.8%
2027	98.8%	2050	53.2%
2028	97.5%	2051	52.8%
2029	95.7%	2052	52.3%
2030	93.0%	2053	52.1%
2031	90.0%	2054	51.8%
2032	86.6%	2055	51.5%
2033	83.4%	2056	51.3%
2034	79.9%	2057	51.1%
2035	76.9%	2058	50.8%
2036	74.1%	2059	50.7%
2037	71.4%	2060	50.5%
2038	68.8%	2061	50.4%
2039	66.8%	2062	50.3%

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT VI**

**Deterministic Projection of 5% Smaller Suspension**

The projected Market Value of Assets and Solvency Ratio for the Plan Years beginning January 1, 2016 through December 31, 2051.

	Year Beginning January 1				
	2016*	2017	2018	2019	2020
1. Market Value at beginning of year	\$1,158,927,465	\$1,126,576,737	\$1,090,613,188	\$1,070,417,938	\$1,054,019,336
2. Contributions	10,835,864	22,300,208	22,946,915	23,612,375	23,612,375
3. Withdrawal liability payments	927,542	1,770,284	1,724,241	1,682,096	1,528,096
4. Benefit payments					
(a) New Entrants	-	-	-	-	-
(b) Current Active	1,048,489	3,155,127	3,980,248	5,120,853	6,318,642
(c) Current Inactive Vested	2,101,942	5,422,698	6,628,339	9,014,205	11,715,763
(d) Current In Pay Status	66,240,556	107,648,091	88,890,219	86,173,405	83,411,008
(e) Total	69,390,987	116,225,916	99,498,806	100,308,464	101,445,413
5. Administrative expenses	1,545,000	3,148,975	3,205,416	3,261,424	3,323,792
6. Investment earnings	<u>26,821,853</u>	<u>59,340,850</u>	<u>57,837,816</u>	<u>61,876,814</u>	<u>63,387,811</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$1,126,576,737	\$1,090,613,188	\$1,070,417,938	\$1,054,019,336	\$1,037,778,412
8. Available resources: (1)+(2)+(3)-(5)+(6)		\$1,206,839,104	\$1,169,916,745	\$1,154,327,800	\$1,139,223,826
9. Solvency ratio: (8) ÷ (4e)		10.384	11.758	11.508	11.230
	2021	2022	2023	2024	2025
1. Market Value at beginning of year	\$1,037,778,412	\$1,019,166,227	\$1,002,330,549	\$982,831,627	\$963,068,676
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,528,096	1,528,096	1,528,096	1,463,863	1,260,964
4. Benefit payments					
(a) New Entrants	-	4,912	13,029	24,770	42,276
(b) Current Active	7,525,880	8,809,756	10,041,893	11,322,326	12,655,089
(c) Current Inactive Vested	14,579,137	18,029,370	21,119,976	23,912,651	26,599,704
(d) Current In Pay Status	80,592,699	77,682,415	74,766,697	71,811,678	68,820,632
(e) Total	102,697,716	104,526,453	105,941,595	107,071,424	108,117,701
5. Administrative expenses	3,386,595	3,447,778	3,509,623	3,571,157	3,632,797
6. Investment earnings	<u>62,331,656</u>	<u>65,998,081</u>	<u>64,811,824</u>	<u>65,803,392</u>	<u>64,374,107</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$1,019,166,227	\$1,002,330,549	\$982,831,627	\$963,068,676	\$940,565,625
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$1,121,863,944	\$1,106,857,002	\$1,088,773,222	\$1,070,140,101	\$1,048,683,326
9. Solvency ratio: (8) ÷ (4e)	10.924	10.589	10.277	9.995	9.699

\* For the period July 1, 2016 through December 31, 2016.

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT VI (continued)**

**Deterministic Projection of 5% Smaller Suspension**

	Year Beginning January 1				
	2026	2027	2028	2029	2030
1. Market Value at beginning of year	\$940,565,625	\$915,591,902	\$887,924,069	\$860,079,081	\$830,395,152
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,260,964	1,260,964	1,260,964	1,249,588	1,239,796
4. Benefit payments					
(a) New Entrants	67,058	99,456	141,976	195,040	260,156
(b) Current Active	13,859,461	15,037,568	16,186,509	17,280,589	18,224,295
(c) Current Inactive Vested	29,199,204	31,895,149	34,056,645	35,755,624	37,397,911
(d) Current In Pay Status	65,795,153	62,740,843	59,663,593	56,571,308	53,472,265
(e) Total	108,920,875	109,773,017	110,048,722	109,802,560	109,354,627
5. Administrative expenses	3,694,798	3,756,618	3,818,087	3,879,343	3,940,322
6. Investment earnings	<u>62,768,612</u>	<u>60,988,463</u>	<u>61,148,482</u>	<u>59,136,011</u>	<u>56,997,598</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$915,591,902	\$887,924,069	\$860,079,081	\$830,395,152	\$798,949,972
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$1,024,512,778	\$997,697,087	\$970,127,804	\$940,197,713	\$908,304,599
9. Solvency ratio: (8) ÷ (4e)	9.406	9.089	8.815	8.563	8.306
	2031	2032	2033	2034	2035
1. Market Value at beginning of year	\$798,949,972	\$766,037,193	\$733,025,257	\$698,714,960	\$663,388,134
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	1,217,664	565,916	347,308	287,020	-
4. Benefit payments					
(a) New Entrants	339,494	434,414	545,342	674,456	823,602
(b) Current Active	19,108,455	19,945,236	20,666,841	21,301,589	22,001,361
(c) Current Inactive Vested	38,665,035	39,642,177	40,457,832	41,101,504	41,509,841
(d) Current In Pay Status	50,375,338	47,290,667	44,229,070	41,201,506	38,220,476
(e) Total	108,488,322	107,312,495	105,899,084	104,279,055	102,555,280
5. Administrative expenses	4,000,730	4,060,712	4,120,543	4,179,808	4,238,670
6. Investment earnings	<u>54,746,234</u>	<u>54,182,980</u>	<u>51,749,646</u>	<u>49,232,642</u>	<u>46,634,801</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$766,037,193	\$733,025,257	\$698,714,960	\$663,388,134	\$626,841,360
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$874,525,516	\$840,337,753	\$804,614,044	\$767,667,189	\$729,396,640
9. Solvency ratio: (8) ÷ (4e)	8.061	7.831	7.598	7.362	7.112

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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**EXHIBIT VI (continued)**

**Deterministic Projection of 5% Smaller Suspension**

	Year Beginning January 1				
	2036	2037	2038	2039	2040
1. Market Value at beginning of year	\$626,841,360	\$590,781,796	\$554,064,902	\$516,634,579	\$478,651,820
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	993,850	1,185,188	1,401,230	1,639,666	1,905,831
(b) Current Active	22,605,620	23,048,798	23,592,720	24,024,628	24,378,752
(c) Current Inactive Vested	41,898,471	41,996,855	41,890,093	41,567,291	41,181,776
(d) Current In Pay Status	35,299,327	32,450,380	29,686,556	27,020,444	24,464,317
(e) Total	100,797,268	98,681,221	96,570,599	94,252,029	91,930,676
5. Administrative expenses	4,297,436	4,355,928	4,413,957	4,471,719	4,528,884
6. Investment earnings	<u>45,422,765</u>	<u>42,707,879</u>	<u>39,941,858</u>	<u>37,128,614</u>	<u>34,272,688</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$590,781,796	\$554,064,902	\$516,634,579	\$478,651,820	\$440,077,323
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$691,579,065	\$652,746,123	\$613,205,178	\$572,903,849	\$532,007,999
9. Solvency ratio: (8) ÷ (4e)	6.861	6.615	6.350	6.078	5.787
	2041	2042	2043	2044	2045
1. Market Value at beginning of year	\$440,077,323	\$400,898,917	\$362,088,506	\$322,688,846	\$282,750,001
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	2,197,987	2,515,751	2,863,849	3,244,443	3,653,650
(b) Current Active	24,646,785	24,870,292	25,031,996	25,086,393	25,067,475
(c) Current Inactive Vested	40,703,090	40,015,012	39,195,247	38,212,324	37,146,914
(d) Current In Pay Status	22,029,002	19,724,572	17,559,305	15,538,807	13,667,035
(e) Total	89,576,864	87,125,626	84,650,397	82,081,966	79,535,074
5. Administrative expenses	4,586,076	4,642,830	4,699,228	4,755,363	4,811,184
6. Investment earnings	<u>31,372,158</u>	<u>29,345,670</u>	<u>26,337,590</u>	<u>23,286,110</u>	<u>20,190,645</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$400,898,917	\$362,088,506	\$322,688,846	\$282,750,001	\$242,206,763
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$490,475,781	\$449,214,132	\$407,339,243	\$364,831,968	\$321,741,838
9. Solvency ratio: (8) ÷ (4e)	5.475	5.156	4.812	4.445	4.045

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**EXHIBIT VI (continued)**

**Deterministic Projection of 5% Smaller Suspension**

	Year Beginning January 1				
	2046	2047	2048	2049	2050
1. Market Value at beginning of year	\$242,206,763	\$201,025,021	\$159,218,309	\$116,775,670	\$73,641,408
2. Contributions	23,612,375	23,612,375	23,612,375	23,612,375	23,612,375
3. Withdrawal liability payments	-	-	-	-	-
4. Benefit payments					
(a) New Entrants	4,094,797	4,571,263	5,083,673	5,625,817	6,202,198
(b) Current Active	25,019,032	24,826,634	24,514,639	24,106,173	23,655,030
(c) Current Inactive Vested	35,914,978	34,578,644	33,140,092	31,628,393	30,050,457
(d) Current In Pay Status	11,946,205	10,376,389	8,955,212	7,678,748	6,541,727
(e) Total	76,975,012	74,352,930	71,693,616	69,039,130	66,449,412
5. Administrative expenses	4,866,481	4,921,670	4,976,551	5,031,241	5,086,045
6. Investment earnings	<u>17,047,376</u>	<u>13,855,513</u>	<u>10,615,153</u>	<u>7,323,734</u>	<u>3,974,389</u>
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	\$201,025,021	\$159,218,309	\$116,775,670	\$73,641,408	\$29,692,716
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$278,000,033	\$233,571,239	\$188,469,287	\$142,680,539	\$96,142,128
9. Solvency ratio: (8) ÷ (4e)	3.612	3.141	2.629	2.067	1.447
	<b>2051</b>				
1. Market Value at beginning of year	\$29,692,716				
2. Contributions	23,612,375				
3. Withdrawal liability payments	-				
4. Benefit payments					
(a) New Entrants	6,809,574				
(b) Current Active	23,098,370				
(c) Current Inactive Vested	28,412,397				
(d) Current In Pay Status	5,537,271				
(e) Total	63,857,612				
5. Administrative expenses	5,140,943				
6. Investment earnings	<u>577,469</u>				
7. Market Value at end of year: (1)+(2)+(3)-(4e)-(5)+(6)	Insolvent				
8. Available resources: (1)+(2)+(3)-(5)+(6)	\$48,741,618				
9. Solvency ratio: (8) ÷ (4e)	0.763				

Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan

EIN 94-1133245/ PN 001

**EXHIBIT VII**

**Stochastic Projection of 5% Smaller Suspension**

<b>Year Beginning January 1</b>	<b>Probability of Remaining Solvent Through the Year and All Prior Years</b>	<b>Year Beginning January 1</b>	<b>Probability of Remaining Solvent Through the Year and All Prior Years</b>
2017	100.0%	2034	76.5%
2018	100.0%	2035	73.4%
2019	100.0%	2036	70.3%
2020	100.0%	2037	67.6%
2021	100.0%	2038	65.1%
2022	100.0%	2039	62.8%
2023	100.0%	2040	60.5%
2024	100.0%	2041	58.6%
2025	99.8%	2042	56.9%
2026	99.4%	2043	55.2%
2027	98.4%	2044	53.8%
2028	96.8%	2045	52.9%
2029	94.3%	2046	51.9%
2030	91.2%	2047	51.1%
2031	87.8%	2048	50.5%
2032	84.0%	2049	49.6%
2033	80.2%		

**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

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**EXHIBIT VIII**

**Projected Total Contribution Base Units and Average Contribution Rates**

<b>Year Beginning January 1</b>	<b>Total Contribution Base Units (Months)</b>	<b>Contribution Rate (Monthly)</b>	<b>Year Beginning January 1</b>	<b>Total Contribution Base Units (Months)</b>	<b>Contribution Rate (Monthly)</b>
2016	44,653	\$485.34	2040	42,027	\$561.84
2017	43,760	509.61	2041	42,027	561.84
2018	42,884	535.09	2042	42,027	561.84
2019	42,027	561.84	2043	42,027	561.84
2020	42,027	561.84	2044	42,027	561.84
2021	42,027	561.84	2045	42,027	561.84
2022	42,027	561.84	2046	42,027	561.84
2023	42,027	561.84	2047	42,027	561.84
2024	42,027	561.84	2048	42,027	561.84
2025	42,027	561.84	2049	42,027	561.84
2026	42,027	561.84	2050	42,027	561.84
2027	42,027	561.84	2051	42,027	561.84
2028	42,027	561.84	2052	42,027	561.84
2029	42,027	561.84	2053	42,027	561.84
2030	42,027	561.84	2054	42,027	561.84
2031	42,027	561.84	2055	42,027	561.84
2032	42,027	561.84	2056	42,027	561.84
2033	42,027	561.84	2057	42,027	561.84
2034	42,027	561.84	2058	42,027	561.84
2035	42,027	561.84	2059	42,027	561.84
2036	42,027	561.84	2060	42,027	561.84
2037	42,027	561.84	2061	42,027	561.84
2038	42,027	561.84	2062	42,027	561.84
2039	42,027	561.84			

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**EXHIBIT IX**

**Assumptions and Methodology**

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The data, actuarial assumptions and methodology are as used in the January 1, 2016 Actuarial Valuation Certificate, dated June 7, 2016, as well as the Actuarial Certification of Plan Status as of January 1, 2016 under IRC Section 432, dated March 30, 2016, except as specifically described below. The calculations are based on a current understanding of the requirements of ERISA Section 305, IRC Section 432, regulation §1.432(e)(9)-1 and Revenue Procedure 2016-27.

**Data:** Supplemental data was provided by the Fund Office to calculate PBGC guaranteed benefits and to model the proposed benefit suspension.

**Projected Industry Activity:** The projected industry assumption is based on input from the plan sponsor for the actuarial certification of plan status as of January 1, 2016 .

**New Entrants:** New entrants are assumed to have a demographic mix consistent with recent entrants during the past five years, with an entry age ranging from age 16 through 66 and an average of 33.2. New entrants are assumed to preserve the existing active breakdown of 98% male and 2% female. The following table shows the distribution of new entrants by entry age.

Age Range	Percentage of New Entrants
Below 20	3%
20 – 24	21%
25 – 29	22%
30 – 34	17%
35 – 39	13%
40 – 44	9%
45 – 49	7%
50 and over	8%

**Financial Information:** The financial information from January 1, 2016 through June 30, 2016 was based on an unaudited financial statement provided by the Fund Office. The value of assets was reduced by the withdrawal liability payments receivable.



**Actuarial Solvency Certification under ERISA Section 305(e)(9)(C)(i) and IRC Section 432(e)(9)(C)(i) for the Automotive Industries Pension Plan**

EIN 94-1133245/ PN 001

**Investment Return Assumption:** After June 30, 2016, the annual investment return assumption for deterministic projections is as follows:

<b>Plan Year Beginning January 1</b>	<b>Return</b>	<b>Plan Year Beginning January 1</b>	<b>Return</b>	<b>Plan Year Beginning January 1</b>	<b>Return</b>
2016	4.75%	2032	7.50%	2048	8.00%
2017	5.50%	2033	7.50%	2049	8.00%
2018	5.50%	2034	7.50%	2050	8.00%
2019	6.00%	2035	7.50%	2051	8.25%
2020	6.25%	2036	7.75%	2052	8.25%
2021	6.25%	2037	7.75%	2053	8.25%
2022	6.75%	2038	7.75%	2054	8.25%
2023	6.75%	2039	7.75%	2055	8.25%
2024	7.00%	2040	7.75%	2056	8.25%
2025	7.00%	2041	7.75%	2057	8.25%
2026	7.00%	2042	8.00%	2058	8.25%
2027	7.00%	2043	8.00%	2059	8.25%
2028	7.25%	2044	8.00%	2060	8.25%
2029	7.25%	2045	8.00%	2061	8.25%
2030	7.25%	2046	8.00%	2062	8.50%
2031	7.25%	2047	8.00%	2063+	8.50%

The net investment return assumption is based on the expected cash return as of December 31, 2015 for each Plan Year, adjusted for the anticipated risk premium for each of the portfolio's asset classes, all provided by Segal Rogerscasey, as well as the Plan's target asset allocation.

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**Stochastic Projections:**

Stochastic projections are based on a Monte Carlo simulation of market value investment returns with 10,000 trials. Other cash flows are based on a deterministic projection.

Stochastic modeling of investment returns begins July 1, 2016. The initial value of assets is based on the actual value as of July 1, 2016. There are no future gains or losses except for investment returns generated under the stochastic projections.

The assumptions for stochastic modeling were based on the Plan's target asset allocation and capital market assumptions reflecting a 50-year horizon provided by Segal Rogerscasey, as follows:

<b>Asset Class</b>	<b>Target Allocation</b>	<b>Expected Returns</b>	<b>Standard Deviation</b>	<b>Allocation on June 30, 2016</b>
U.S. equities	45.0%	9.3%	18.5%	48.2%
International equities (developed market)	9.3%	10.0%	21.0%	10.4%
Emerging market equities	0.7%	12.4%	24.0%	0.8%
Core fixed income	22.5%	4.3%	5.0%	18.5%
High Yield fixed income	7.5%	7.5%	12.5%	6.2%
Core real estate	5.0%	7.1%	12.0%	7.5%
Hedge fund	6.7%	6.3%	6.3%	5.6%
Private equity	3.3%	14.1%	24.5%	2.8%

<b>Correlations</b>	U.S. equities	International equities (developed market)	Emerging market equities	Core fixed income	High yield fixed income	Core real estate	Hedge fund	Private equity
U.S. equities	1.00							
International equities (developed market)	0.88	1.00						
Emerging market equities	0.80	0.90	1.00					
Core fixed income	0.06	0.14	0.14	1.00				
High yield fixed income	0.75	0.75	0.73	0.27	1.00			
Core real estate	0.26	0.19	0.10	-0.25	-0.05	1.00		
Hedge fund	0.71	0.78	0.80	-0.02	0.63	0.26	1.00	
Private equity	0.77	0.75	0.71	-0.27	0.63	0.52	0.78	1.00

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**Administrative Expenses:**

Annual administrative expenses are assumed to be \$3,090,000 for the 2016 Plan Year. Consistent with the inflation assumption used to develop the above investment return assumption, administrative expenses are assumed to increase by 2.25% per year. Based on the plan's audit statement as of December 31, 2015, about two-thirds of the administrative expenses are dependent on the plan's population size. This portion of the expenses have been adjusted to reflect anticipated changes in participant counts in the future. The annual administrative expenses assumption is based on historical and current data, adjusted to reflect estimated future experience and professional judgment.

**Benefit Payment Projections:**

Benefit payments were based on a closed group valuation for participants included in the 2015 actuarial valuation and an open group valuation for new entrants.

**Mortality Rates:**

*Healthy Post-Retirement:* RP-2014 Blue Collar Healthy Annuitant Mortality Tables, set forward 1 year, with generational projection using Scale MP-2015.

*Disabled:* RP-2014 Disabled Retiree Mortality Tables, set forward 1 year, with generational projection using Scale MP-2015.

*Pre-Retirement:* RP-2014 Blue Collar Employee Tables, set forward 1 year, with generational projection using Scale MP-2015.

The RP-2014 tables, set forward 1 year, with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date. These mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

The mortality rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of deaths and the projected number based on the assumption over the most recent 10 years.

The mortality assumptions were revised from those used for the 2016 zone certification and 2016 actuarial valuation. The new assumptions are based mortality rates from more recent mortality tables, with the rates projected generationally to reflect future mortality improvement. These assumptions are more appropriate for solvency projections involving the proposed benefit suspensions, due to the long-term nature of those projections. Because the 2016 zone certification and actuarial valuation did not reflect any benefit suspensions, the plan would have had a projected near-term insolvency under either mortality basis.

**EXHIBIT X**

**Proposed Benefit Suspensions**

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The plan of benefits is as used in the January 1, 2016 actuarial valuation certificate, dated June 7, 2016, except as specifically described below.

**Proposed Benefit Suspensions:**

Effective July 1, 2017, the Plan will recalculate accrued benefits or benefits in pay status for all affected participants as described below, but no less than 110% of the benefit guaranteed by the PBGC:

- For Future Service prior to January 1, 2005, a participant's monthly accrued benefit is determined based on a percentage of their contributions, with the percentage ranging from 2.75% to 5.00%. Effective on the suspension date, the participant's accrued benefit will be capped at 1.96% of contributions for this service.

The above change will not affect the following groups of participants:

- Participants who were awarded with a disability pension and beneficiaries of such participants, and
- Participants and beneficiaries who are at least age 80 as of the end of the month that includes the suspension date (i.e., July 31, 2017).

The amount of benefit payable on and after the suspension date for participants and beneficiaries who are at least age 75 but less than age 80 as of the end of the month that includes the suspension date will equal the sum of:

- The amount of benefit calculated above, and
- 1/60 of the difference between the benefit payable before the suspension date and the amount of benefit calculated above, if any, multiplied by the number of months the participant is over age 75 at the end of the month that includes the suspension date.

**Technical Issues**

Segal Consulting (“Segal”) does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which the certification is based reflects Segal’s understanding as an actuarial firm. Due to the complexity of the statute and the significance of its ramifications, Segal recommends that the Board of Trustees consult with legal counsel when making any decisions regarding compliance with ERISA and the Internal Revenue Code.

5449318v2/01149.036

**Automotive Industries  
Pension Plan  
Actuarial Valuation and  
Review as of January 1, 2016**



This report has been prepared at the request of the Board of Trustees to assist in administering the Fund and meeting filing requirements of federal government agencies. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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June 7, 2016

Board of Trustees  
Automotive Industries Pension Plan  
Alameda, California

Dear Trustees:

We are pleased to submit the Actuarial Valuation and Review as of January 1, 2016. It establishes the funding requirements for the current year and analyzes the preceding year's experience. It also summarizes the actuarial data and includes the actuarial information that is required to be filed with Form 5500 to federal government agencies.

The census information upon which our calculations were based was prepared by the Fund Office, under the direction of Michael Schumacher. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Paul C. Poon, ASA, MAAA, Enrolled Actuary.

We look forward to reviewing this report with you at your next meeting and to answering any questions you may have.

Sincerely,

Segal Consulting, a Member of the Segal Group

Redacted by the U.S. Department of the  
Treasury

By: J. Tim Biddle  
Senior Vice President

MAM/gxk

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# Section 1: Actuarial Valuation Summary

## Introduction

There are several ways of evaluating funding adequacy for a pension plan. In monitoring the Plan's financial position, the Trustees should keep in mind all of these concepts.



### Funding Standard Account

The ERISA Funding Standard Account (FSA) measures the cumulative difference between actual contributions and the minimum required contributions. If actual contributions exceed the minimum required contributions, the excess is called the credit balance. If actual contributions fall short of the minimum required contributions, a funding deficiency occurs.



### Zone Information

The Pension Protection Act of 2006 (PPA'06) called on plan sponsors to actively monitor the projected FSA credit balance, the funded percentage (the ratio of the actuarial value of assets to the present value of benefits earned to date) and cash flow sufficiency. Based on these measures, plans are then categorized as critical (*Red Zone*), endangered (*Yellow Zone*), or neither (*Green Zone*). The Multiemployer Pension Reform Act of 2014 (MPRA), among other things, made the zone provisions permanent.



### Solvency Projections

Pension plan funding anticipates that, over the long term, both contributions and investment earnings will be needed to cover benefit payments and expenses. To the extent that contributions are less than benefit payments, investment earnings and fund assets will be needed to cover the shortfall. In some situations, a plan may be faced with insufficient assets to cover its current obligations and may need assistance from the Pension Benefit Guaranty Corporation (PBGC). MPRA provides options for some plans facing insolvency.



### Scheduled Cost

The Scheduled Cost is an annual amount based on benefit levels and assets that allows a comparison to current contribution levels, given the expectation of a continuing Plan.



### Withdrawal Liability

ERISA provides for assessment of withdrawal liability to employers who withdraw from a multiemployer plan based on unfunded vested benefit liabilities. A separate report is available.

## Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future uncertain obligations of a pension plan. As such, it will never forecast the precise future contribution requirements or the precise future stream of benefit payments. In any event, it is an estimated forecast — the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:



### Plan Provisions

Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may require the award of a Social Security disability pension as a condition for receiving a disability pension from the plan. If so, changes in the Social Security law or administration may change the plan’s costs without any change in the terms of the plan itself. It is important for the Trustees to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.



### Participant Information

An actuarial valuation for a plan is based on data provided to the actuary by the plan. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. For most plans, it is not possible nor desirable to take a snapshot of the actual workforce on the valuation date. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a “perfect” result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.



### Financial Information

Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the auditor. Some plans include assets, such as private equity holdings, real estate, or hedge funds, that are not subject to valuation by reference to transactions in the marketplace. A snapshot as of a single date may not be an appropriate value for determining a single year’s contribution requirement, especially in volatile markets. Plan sponsors often use an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.



### Actuarial Assumptions

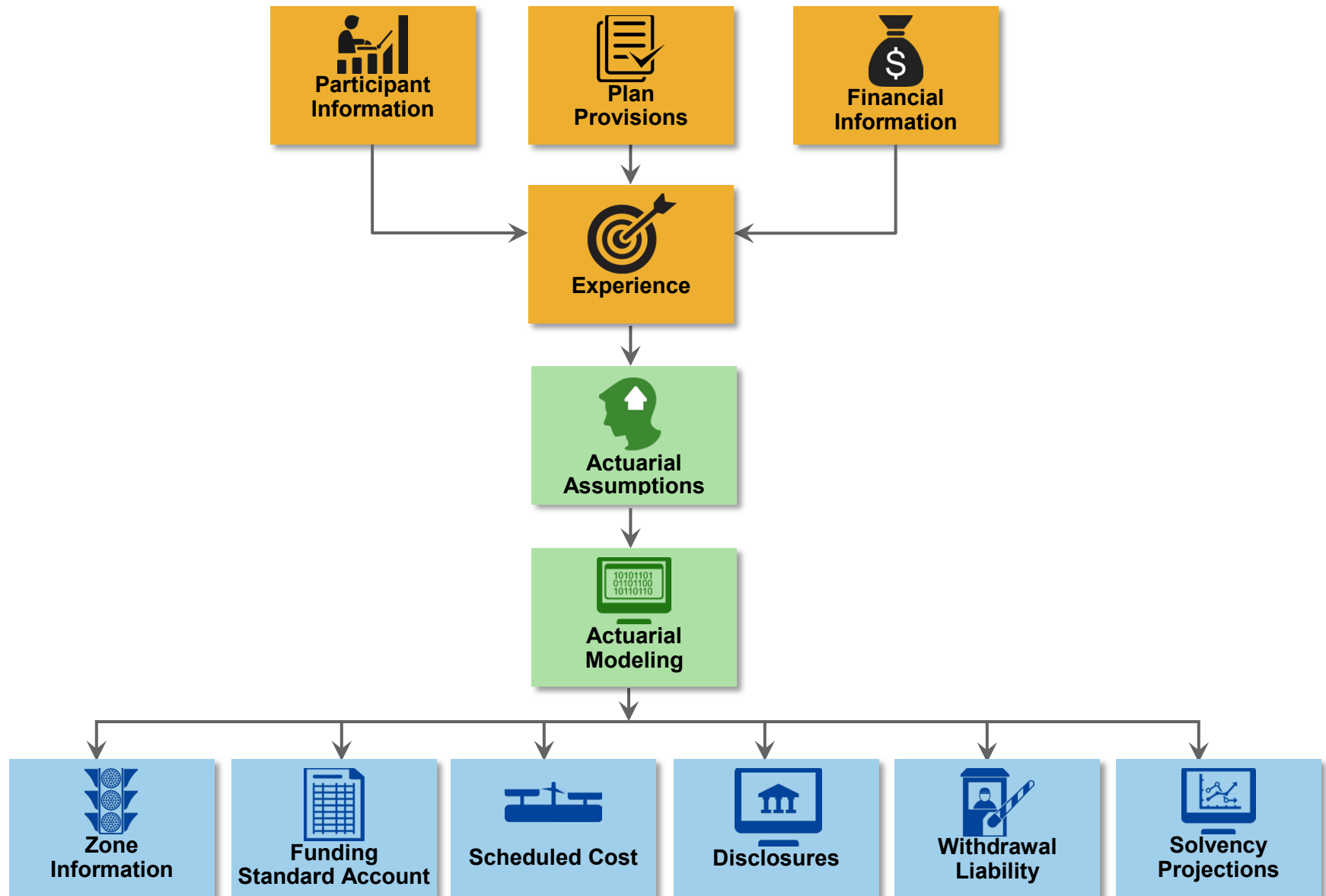
In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan’s benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan’s assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results and will have no impact on the actual cost of the plan (the total of benefits and expenses paid out over time). In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Given the above, the user of Segal's actuarial valuation (or other actuarial calculations) needs to keep the following in mind:

- The actuarial valuation is prepared for use by the Trustees. It includes information for compliance with federal filing requirements and for the plan's auditor. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- Actuarial results in this report are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in employment levels and investment losses, not just the current valuation results.
- ERISA requires a plan's enrolled actuary to provide a statement for inclusion in the plan's annual report disclosing any event or trend that the actuary has not taken into account, if, to the best of the actuary's knowledge, such an event or trend may require a material increase in plan costs or required contribution rates. If the Trustees are currently aware of any event that was not considered in this valuation and that may materially increase the cost of the Plan, they must advise Segal, so that we can evaluate it and take it into account.
- A certification of "zone" status under PPA'06 is a separate document from the actuarial valuation.
- Segal does not provide investment, legal, accounting, or tax advice. This valuation is based on Segal's understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Trustees should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Trustees upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

## ACTUARIAL VALUATION OVERVIEW



This January 1, 2016 actuarial valuation report is based on financial and demographic information as of that date. Changes subsequent to that date are not reflected unless specifically identified, and could affect future results. Segal is prepared to work with the Trustees to analyze the effects of any subsequent developments. The current year's actuarial valuation results follow.

## A. Developments Since Last Valuation

1. The rate of return on the market value of plan assets was 0.2% for the 2015 plan year. The rate of return on the actuarial value of assets was 8.2% as a result of the asset valuation method. The current assumed long-term rate of return on investments is 7.25%. Given the low fixed income interest rate environment, target asset allocation and expectations of future investment returns for various asset classes, we will continue to monitor the Plan's actual and anticipated investment returns.
2. Based on past experience and future expectations, the benefit election assumption was changed so that married participants elect the 75% Joint and Survivor Option for future retirements.
3. The 2016 certification, issued on March 30, 2016, based on the liabilities calculated in the 2015 actuarial valuation, projected to January 1, 2016 and estimated asset information as of January 1, 2016, classified the Plan as critical and declining (in the *Red Zone*) because there was a projected deficiency in the FSA within one year and a projected insolvency within 15 years. This projection was based on the Trustees' industry activity assumption that the total number of contributory months will decline by 2% per year for the next four years and remain level after.
4. Under the Trustees' Rehabilitation Plan, new collective bargaining agreements negotiated after April 27, 2008 are subject to the Default Schedule that includes the maximum benefit reductions allowed by law. These reductions include the removal of all early retirement subsidies, joint and survivor subsidies, disability pensions, the 36-payment pre-retirement death benefit and all benefit options besides the single life annuity, QJSA and QOSA. The Default Schedule also includes supplemental off-benefit contributions beginning January 1, 2013. The valuation recognizes the Default Schedule.
5. Due to the plan's funding issues, for Funding Standard Account purposes we recommend changing the actuarial cost method from Entry Age Normal to Unit Credit and changing the actuarial value of assets to market value, effective January 1, 2016. The results in the report are based on those recommended changes.



## **B. Funded Percentage and Funding Standard Account**

1. Based on this January 1, 2016 actuarial valuation, the funded percentage as of that date is 62.2%. This will be reported on the 2016 Annual Funding Notice.
2. The funding deficiency in the FSA as of December 31, 2015 was \$443,104,399, an increase of \$110,520,639 from the prior year.
3. We are available to work with the Trustees to develop credit balance projections.



## C. Solvency Projections

1. Based on this valuation, the current value of assets plus future investment earnings and contribution income are not projected to cover benefit payments and administrative expenses beyond 14 years (through December 31, 2029), assuming experience is consistent with January 1, 2016 assumptions. This is the same as projected in the January 1, 2015 actuarial valuation because the market value investment loss was offset by the inclusion of expected future withdrawal liability payments. The projected assets until insolvency and the projection basis are shown on page 34. If requested by the Trustees, we can perform additional projections of the financial status of the Plan.





## Summary of Key Valuation Results

	2015	2016
<b>Certified Zone Status</b>	<b>Critical and Declining</b>	<b>Critical and Declining</b>
<b>Demographic Data:</b>		
• Number of active participants	4,026	3,923
• Number of inactive participants with vested rights	10,470	10,394
• Number of retired participants and beneficiaries	11,300	11,239
<b>Assets:</b>		
• Market value of assets (MVA)	\$1,297,668,067	\$1,192,990,400
• Actuarial value of assets (AVA)	1,199,472,038	1,192,990,400
• AVA as a percent of MVA	92.4%	100.0%
<b>Cash Flow:</b>		
• Projected employer contributions	\$21,140,860 <sup>(1)</sup>	\$23,526,812 <sup>(2)</sup>
• Actual contributions	29,612,275 <sup>(3)</sup>	--
• Projected benefit payments and expenses	141,923,742	141,979,326
• Insolvency projected in Plan Year beginning <sup>(4)</sup>	2030 <sup>(1)</sup>	2030 <sup>(2)</sup>
<b>Statutory Funding Information:</b>		
• Minimum required contribution	\$473,831,388	\$582,342,694
• Maximum deductible contribution	3,221,905,003	3,264,455,404
• Annual Funding Notice percentage	61.1%	62.2%
• FSA deficiency projected in Plan Year	Yes	Yes
<b>Cost Elements on an FSA Basis:</b>		
• Normal cost, including administrative expenses	\$6,195,281	\$8,160,791
• Actuarial accrued liability	1,989,735,216	1,916,926,229
• Unfunded actuarial accrued liability (based on AVA)	790,263,178	723,935,829

<sup>(1)</sup> Excludes projected withdrawal liability payments.

<sup>(2)</sup> Includes projected withdrawal liability payments.

<sup>(3)</sup> Includes \$8,600,901 in withdrawal liability payments and \$116,551 in liquidated damages.

<sup>(4)</sup> Includes 5% annual contribution rate increases through 2019 under the Rehabilitation Plan Default Schedule.

## Comparison of Funded Percentages

	Funded Percentages as of January 1		2016	
	2015	2016	Liabilities	Assets
1. Present Value of Future Benefits	59.7%	60.9%	\$1,958,083,789	\$1,192,990,400
2. Actuarial Accrued Liability	60.3%	62.2%	1,916,926,229	1,192,990,400
3. PPA'06 Liability and Annual Funding Notice	61.1%	62.2%	1,916,926,229	1,192,990,400
4. Accumulated Benefits Liability	66.1%	62.2%	1,916,926,229	1,192,990,400
5. Current Liability	41.4%	37.7%	3,165,003,139	1,192,990,400

### Notes:

1. Includes the value of benefits earned through the valuation date (accrued benefits) plus the value of benefits projected to be earned in the future for current participants. Used to develop the actuarial accrued liability, based on long-term funding investment return assumption of 7.25% and the actuarial value of assets. The funded percentage using market value of assets is 60.9% for 2016 and 64.6% for 2015.
2. Represents the portion of present value of future benefits allocated by the actuarial cost method to years prior to the valuation date. Used in determining the Funding Standard Account, based on long-term funding investment return assumption of 7.25% and the actuarial value of assets. The funded percentage using market value of assets is 62.2% for 2016 and 65.2% for 2015.
3. Measures present value of accrued benefits using the current participant census and financial data. As defined by the PPA'06, based on long-term funding investment return assumption of 7.25% and the actuarial value of assets.
4. Provides present value of accrued benefits for disclosure in the audited financial statements, based on long-term funding investment return assumption of 7.25%, and the market value of assets.
5. Used to determine maximum tax-deductible contributions and is reported on Schedule MB to Form 5500. Based on the present value of accrued benefits, using a prescribed mortality table and investment return assumption of 3.28% for 2016 and 3.51% for 2015, and the market value of assets. The funded percentage is also shown on the Schedule MB if it is less than 70%.

Disclosure: These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations or the need for or the amount of future contributions.

## Section 2: Actuarial Valuation Results

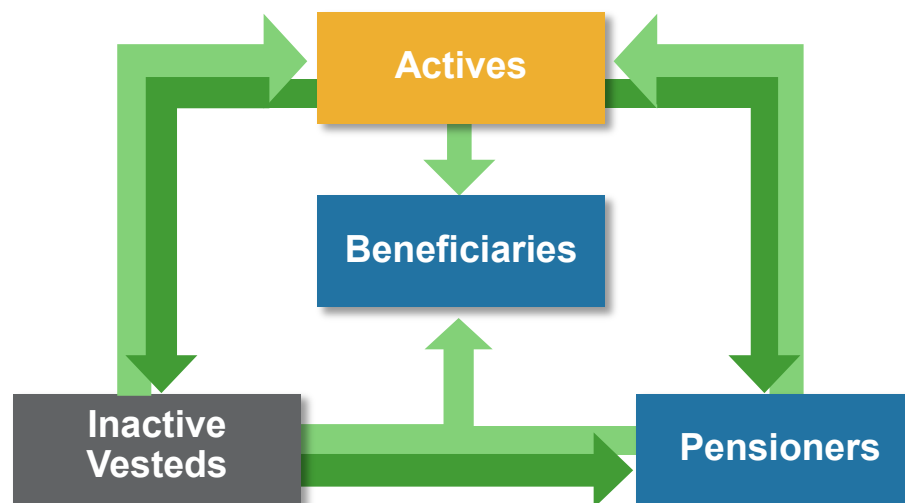
### Participant Information

- The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants as of December 31, 2015. More detailed information for this valuation year, and the preceding year can be found in *Section 3, Exhibit A*.

**3,923**  
Active Participants

**10,394**  
Inactive Vested  
Participants

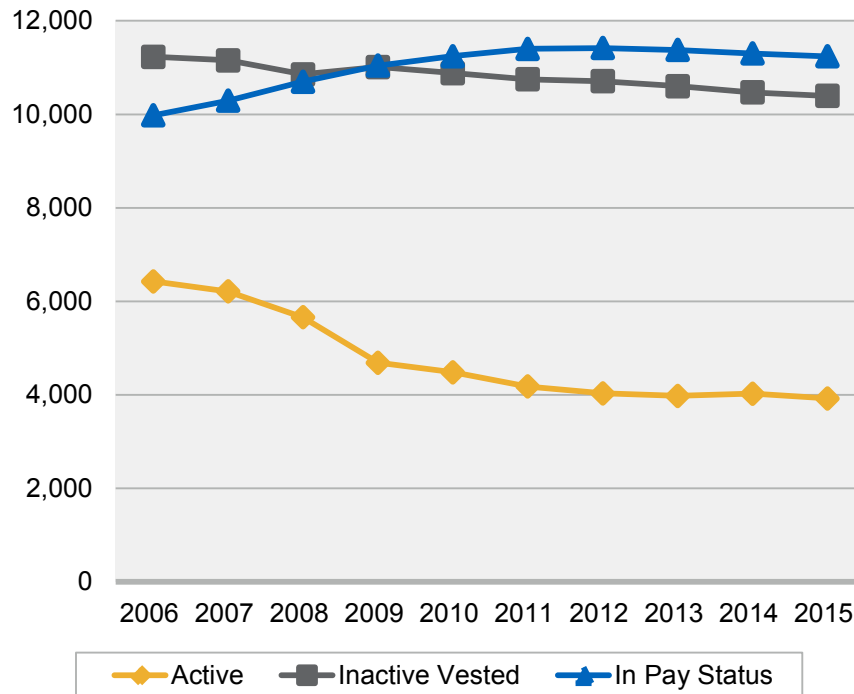
**11,239**  
Pensioners and  
Beneficiaries



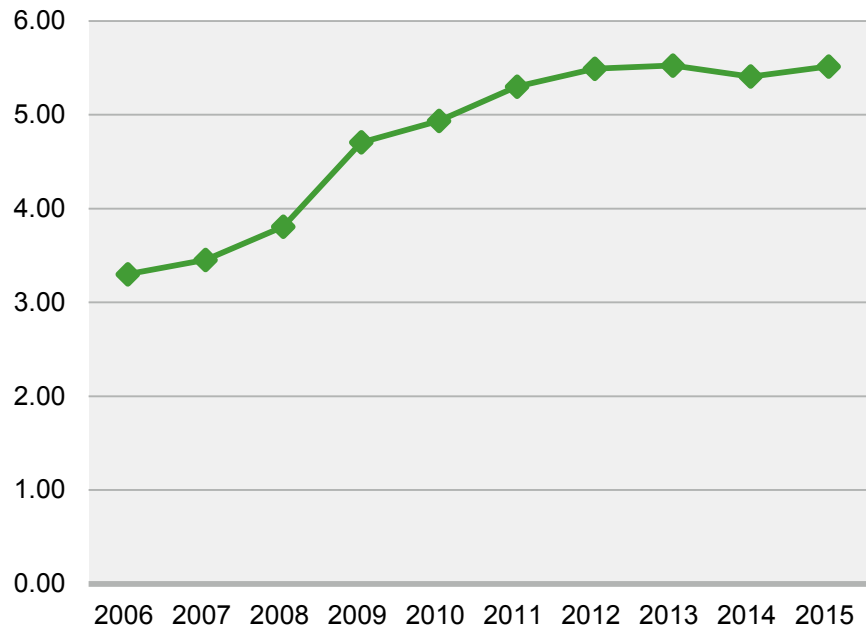
## Changes in Population Over Time

- The number of active participants has declined from 6,426 to 3,923 over the last 10 years while the number in pay status has increased by 1,260 over that period.
- There are now 5.5 non-active participants for each active participant.
- More details on the historical information are included in *Section 3, Exhibit B*.

**POPULATION AS OF  
DECEMBER 31**



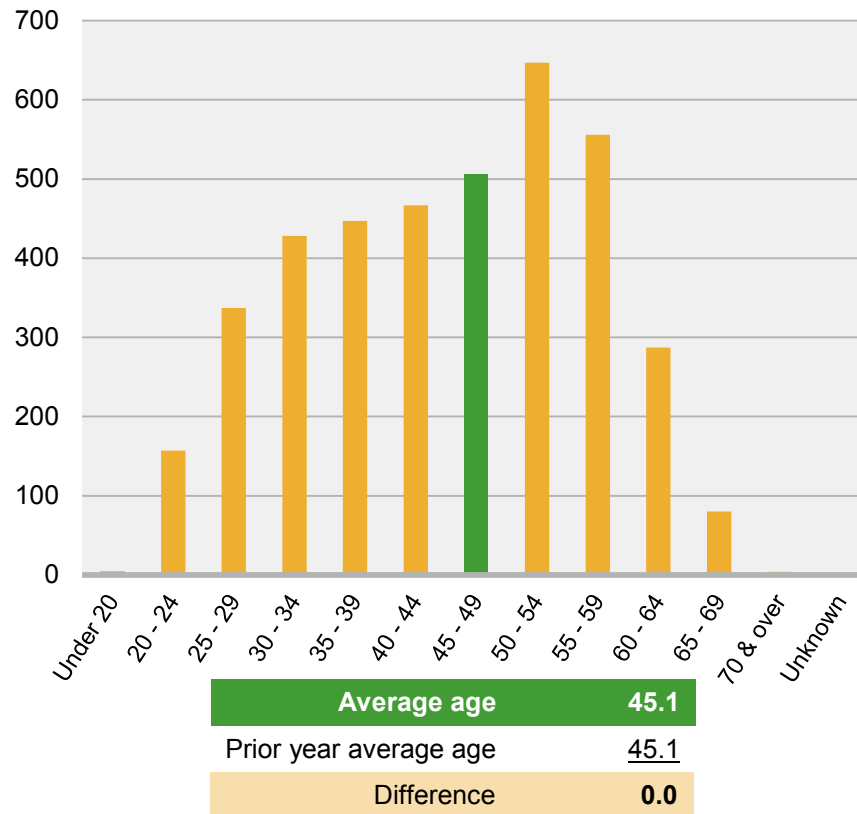
**RATIO OF NON-ACTIVES TO ACTIVES  
AS OF DECEMBER 31**



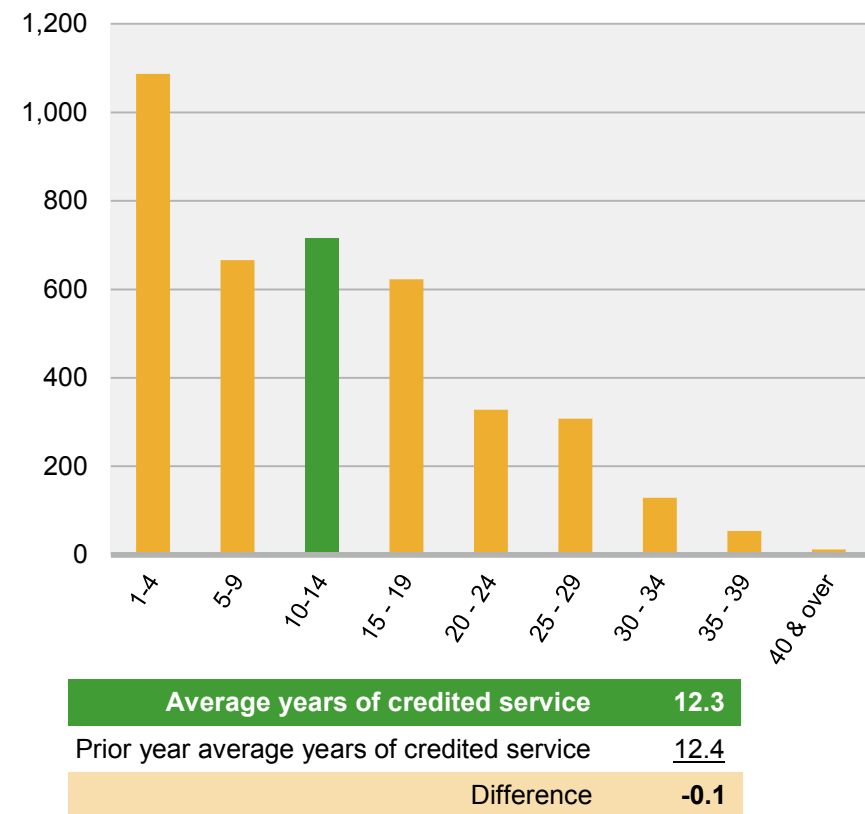
## Active Participants

- There were 3,923 active participants in this year's valuation compared to 4,026 in the prior year.
- The age and service distribution is included in *Section 4, Exhibit 8*.

**DISTRIBUTION BY AGE  
AS OF DECEMBER 31, 2015**



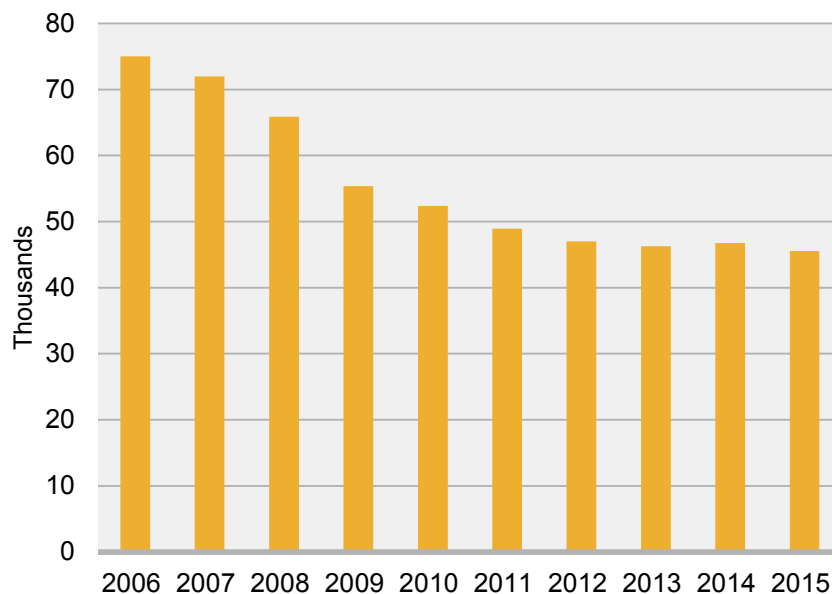
**DISTRIBUTION BY YEARS OF CREDITED  
SERVICE AS OF DECEMBER 31, 2015**



## Historical Employment

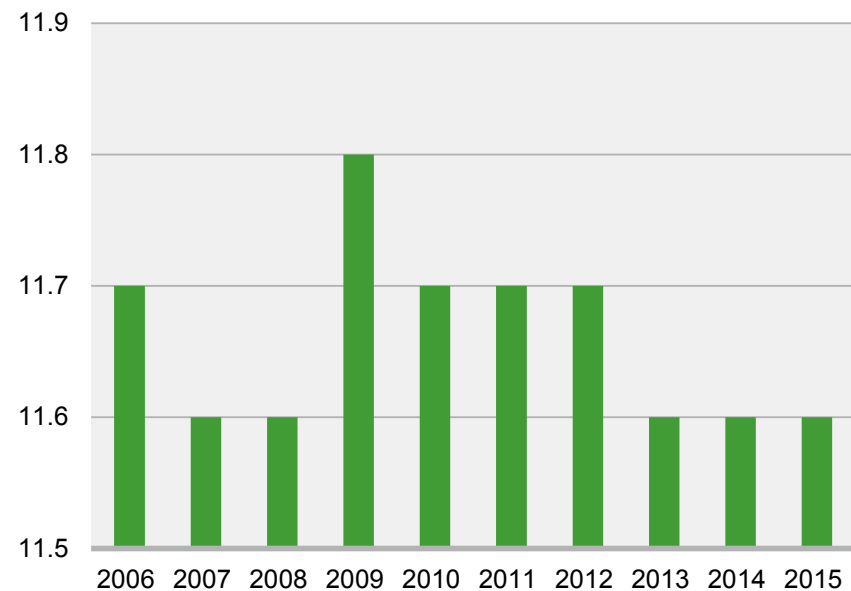
- The total and average hours for each of the last 10 years is shown below. More details on the historical information are included in *Section 3, Exhibit C*.
- The industry activity assumption used for the 2016 actuarial zone certification was that the total number of contributory months would decline by 2% per year for the next four years, and remain level thereafter. We look to the Trustees for guidance as to whether this continues to be reasonable.

**TOTAL MONTHS**



Historical Average Total Months	
Last year	45,564
Last 5 years	46,913
Last 10 years	55,517

**AVERAGE MONTHS**

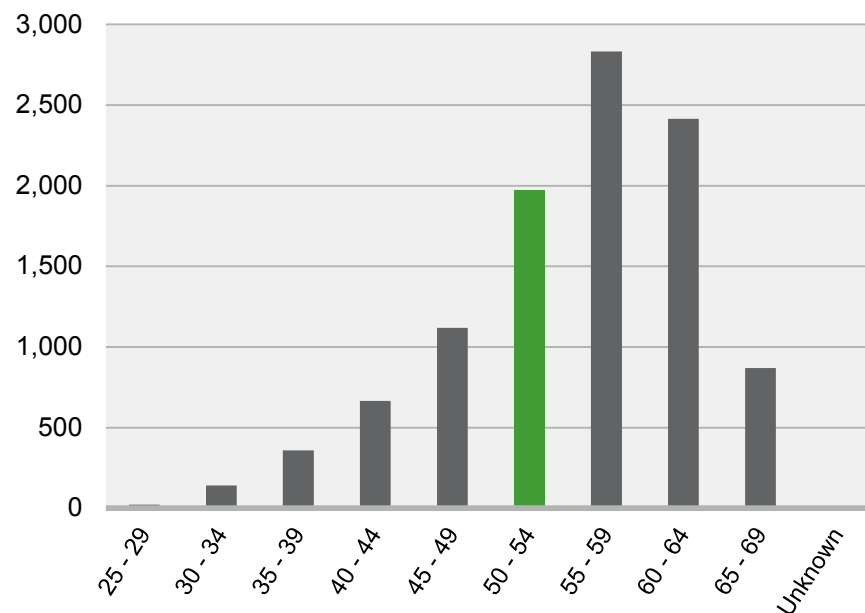


Historical Average Months	
Last year	11.6
Last 5 years	11.6
Last 10 years	11.7

## Inactive Vested Participants

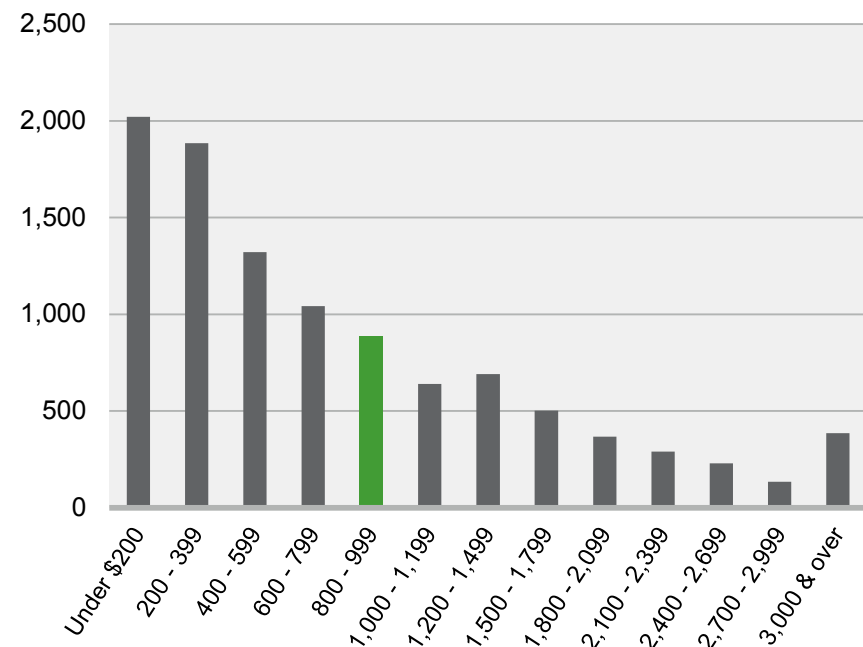
- A participant who is not currently active and has satisfied the vesting requirements for, but has not yet commenced, a pension is considered an “inactive vested” participant.
- There were 10,394 inactive vested participants in this year’s valuation compared to 10,470 in the prior year.

**DISTRIBUTION BY AGE  
AS OF DECEMBER 31, 2015**



Average age	54.9
Prior year average age	54.4
Difference	0.5

**DISTRIBUTION BY MONTHLY AMOUNT AS OF  
DECEMBER 31, 2015**



Average amount	\$891
Prior year average amount	\$874
Difference	\$17

## New Pensions Awarded

- There were 310 pensions awarded in 2015.
- The average pension awarded, after adjustment for optional forms of payment, was \$909.

Year Ended Dec 31	Total		Normal		Early		Disability		Unreduced Early		Rule of 85	
	Number	Average Amount	Number	Average Amount	Number	Average Amount	Number	Average Amount	Number	Average Amount	Number	Average Amount
2006	511	\$1,255	120	\$690	177	\$920	27	\$2,445	124	\$957	63	\$3,346
2007	541	1,177	131	544	177	991	21	1,852	148	952	64	3,283
2008	678	1,360	134	687	276	1,102	29	1,882	133	1,015	106	3,172
2009	577	1,287	197	594	221	967	26	2,044	57	1,130	76	3,871
2010	463	1,105	169	518	181	727	17	1,736	35	1,801	61	3,281
2011	462	1,105	146	547	224	625	16	2,397	19	2,056	57	3,611
2012	311	1,157	212	534	42	1,627	6	2,822	17	2,012	34	3,742
2013	288	875	230	510	21	1,410	9	1,422	6	1,936	22	3,663
2014	247	872	203	672	33	1,268	4	1,593	1	1,101	6	4,940
2015	310	909	267	759	39	1,497	1	2,004	-	-	3	6,252

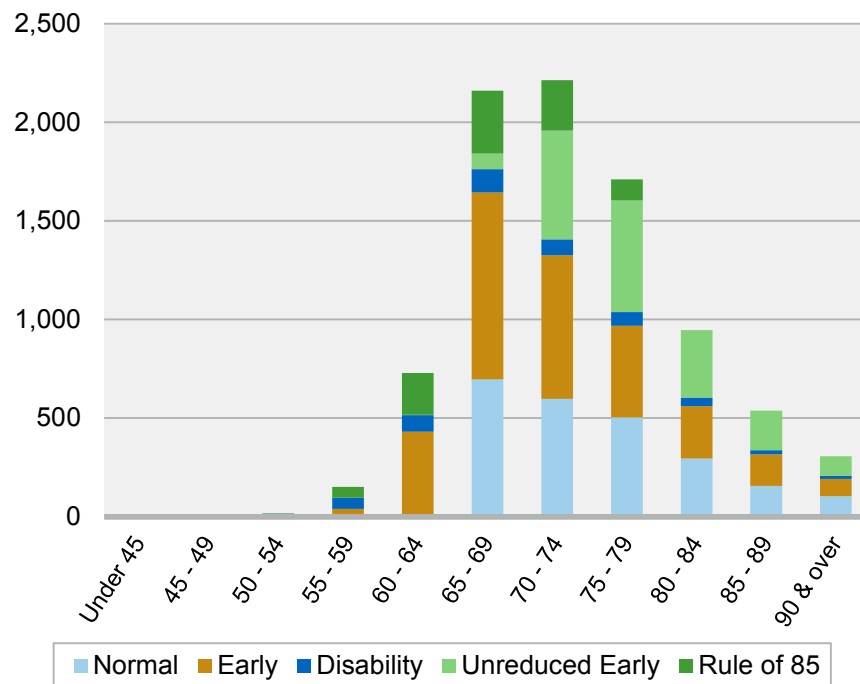


## Pay Status Information

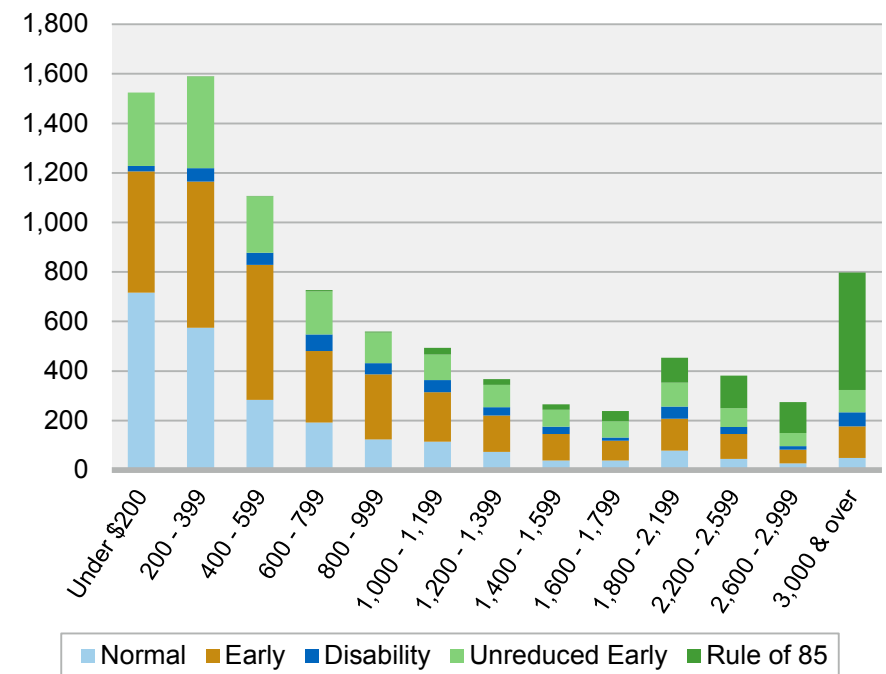
December 31, 2014	vs.	December 31, 2015
<b>8,837</b> pensioners and <b>2,410</b> beneficiaries	→	<b>8,777</b> pensioners and <b>2,419</b> beneficiaries
<b>\$11,029,028</b> total monthly benefits received	→	<b>\$11,085,801</b> total monthly benefits received

### Distribution of Pensioners

**PENSIONERS BY TYPE AND BY AGE AS OF DECEMBER 31, 2015**



**PENSIONERS BY TYPE AND MONTHLY AMOUNT AS OF DECEMBER 31, 2015**



## Progress of Pension Rolls Over the Past Ten Years

### IN PAY STATUS AT YEAR END

Year	Number	Average Age	Average Amount	Terminations <sup>1</sup>	Additions <sup>2</sup>
2006	8,003	70.9	\$968	317	519
2007	8,195	71.0	997	352	544
2008	8,568	70.8	1,039	347	720
2009	8,796	71.0	1,070	361	589
2010	8,928	71.2	1,086	346	478
2011	9,031	71.4	1,101	370	473
2012	8,993	71.9	1,118	361	323
2013	8,922	72.4	1,123	378	307
2014	8,837	72.9	1,131	354	269
2015	8,777	73.3	1,140	384	324

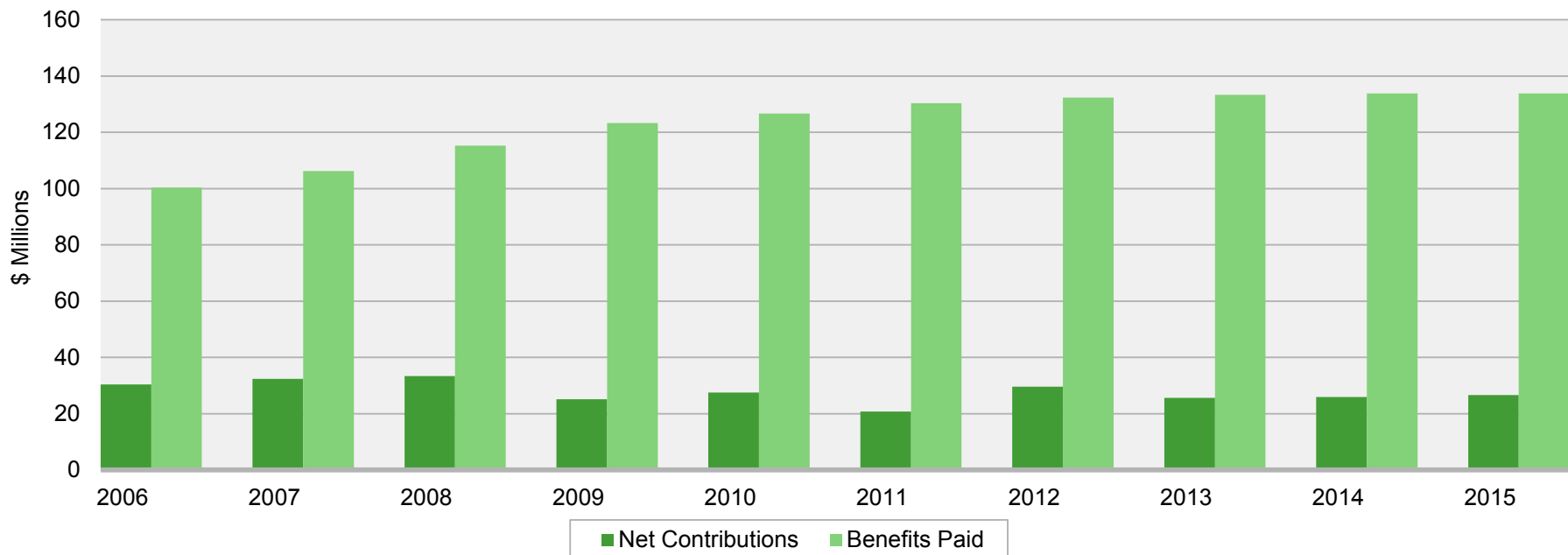
<sup>1</sup> Terminations include pensioners who died or were suspended during the prior plan year.

<sup>2</sup> Additions to the pension rolls include new pensions awarded and suspended pensioners who have been reinstated.

## Financial Information

- Pension plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments.
- A summary of these transactions for the valuation year and the prior year, including investment activity on an actuarial basis, is presented in *Section 3, Exhibit D*.
- Contributions net of administrative expenses were \$26,616,055 for the year.
- Benefit payments during the year totaled \$133,827,365. They are projected to increase to \$161 million 10 years from now.

### COMPARISON OF NET EMPLOYER CONTRIBUTIONS AND BENEFITS PAID



## Determination of Actuarial Value of Assets

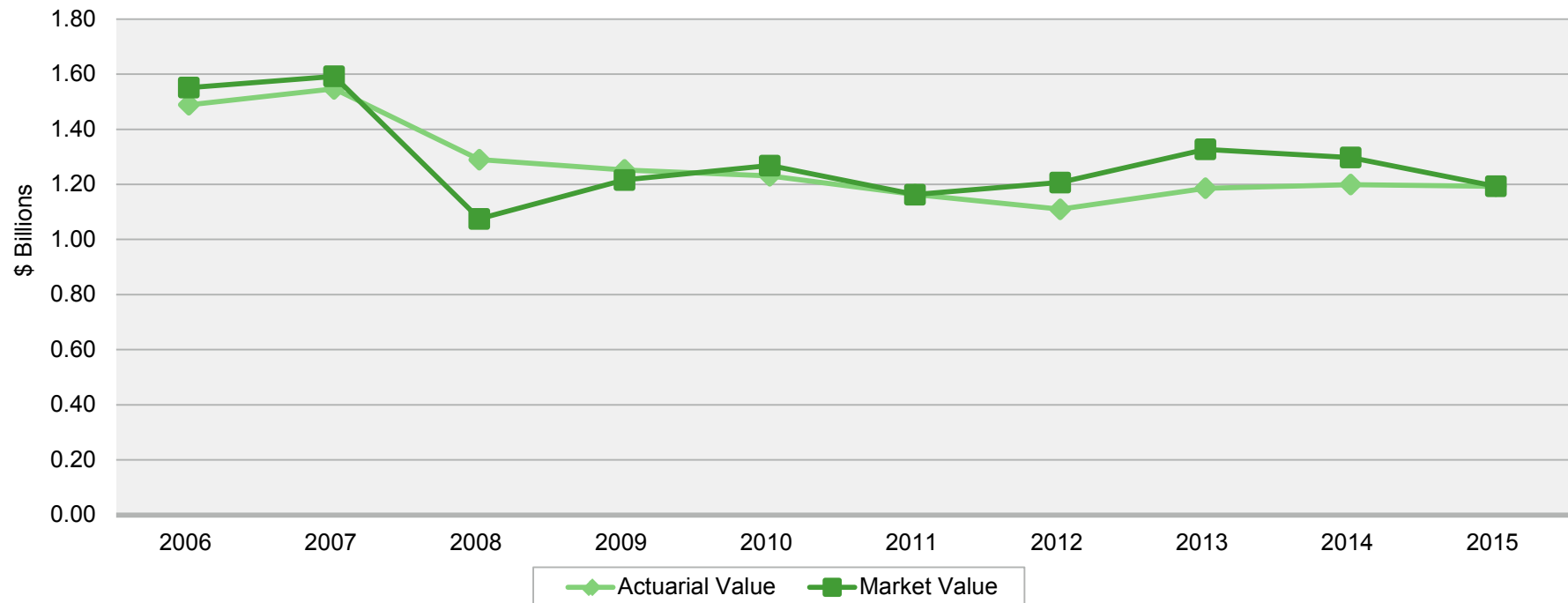
- The valuation is based on the Trustees adopting our recommendation to change the asset valuation method to market value. Under this valuation method, the full value of market fluctuation is recognized in a single year and, as a result, the asset value and the pension plan cost are relatively volatile. However, the volatility of plan costs is not an important factor for plans projected to become insolvent.

1	Actuarial value of assets = Market value of assets	\$1,192,990,400
---	--	-----------------

## Asset History

- Both the actuarial value and the market value of assets are representations of the Plan's financial status.
- The actuarial value is significant because it is subtracted from the Plan's total actuarial accrued liability to determine the portion that is not funded and is used to determine the PPA '06 funded percentage.
- Amortization of the unfunded accrued liability is an important element in the contribution requirements of the Plan.

### ACTUARIAL VALUE OF ASSETS VS. MARKET VALUE OF ASSETS AS OF DECEMBER 31



## Actuarial Experience

- To calculate the cost requirements of the Plan, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. For contribution requirements to remain stable, assumptions should approximate experience and expectations for the future, which may require adjustments in the assumptions from time to time.
- Each year actual experience is measured against the assumptions and differences are reflected in the contribution requirement. If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.
- Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the experience was a short-term development and that, over the long run, experience will return to assumed levels.
- The net experience variation for the year ending December 31, 2015, other than investment experience, was 0.2% of the projected actuarial accrued liability from the prior valuation, and was not significant when compared to that liability.

<b>1</b>	Net gain from investments	\$10,479,841
<b>2</b>	Net gain from administrative expenses	3,904
<b>3</b>	Net gain from other experience	<u>4,783,771</u>
<b>4</b>	<b>Net experience gain: 1 + 2 + 3</b>	<b><u>\$15,267,516</u></b>

## Actuarial Value Investment Experience

- The actuarial rate of return for a given year is the investment income net of investment expenses, expressed as a percentage of the average actuarial value of assets during the year.
- Net investment income consists of interest and dividend income at the actuarially assumed rate of return (net of investment expenses) and the adjustment for market value changes.
- The actuarial value of assets does not yet fully recognize past net investment losses. As a result, the effect of favorable future investment returns will be dampened as recognition of past net investment losses is phased in. Therefore, the rate of return on an actuarial basis may fall below the assumed rate of return as unrecognized losses are reflected, even if market returns are favorable.

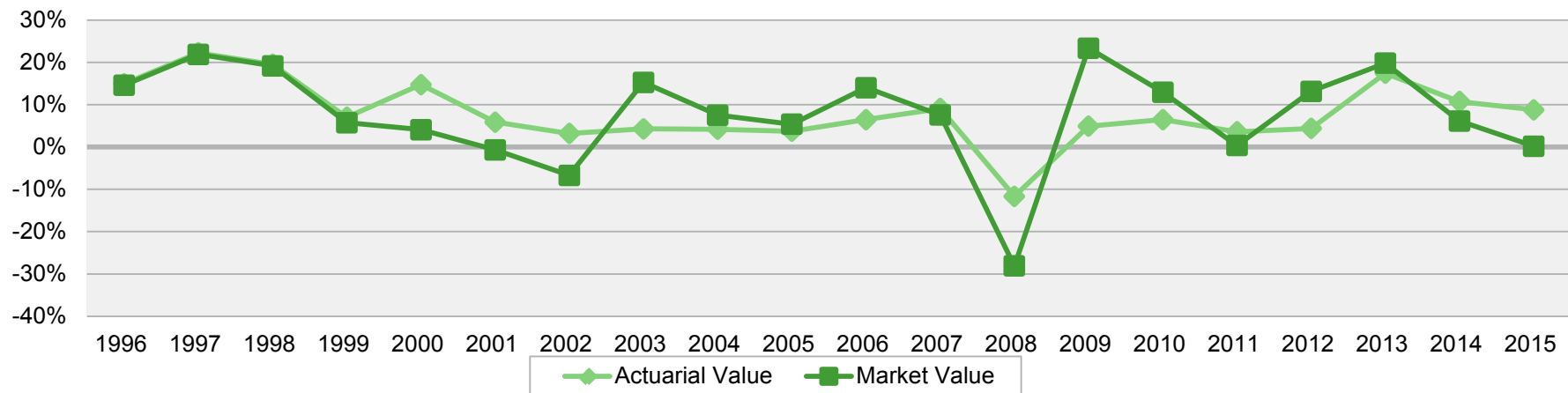
### EXPERIENCE FOR THE YEAR ENDED DECEMBER 31, 2015

<b>1</b>	Net investment income	\$93,555,154
<b>2</b>	Average actuarial value of assets	1,145,866,383
<b>3</b>	Rate of return: <b>1 ÷ 2</b>	8.16%
<b>4</b>	Assumed rate of return	7.25%
<b>5</b>	Expected net investment income: <b>2 x 4</b>	\$83,075,313
<b>6</b>	Actuarial gain: <b>1 - 5</b>	<u><b>\$10,479,841</b></u>

## Historical Investment Returns

- As expected, the experience in the past few years has shown both higher and lower rates of return than the long-term assumption. However, actuarial planning is long term, as the obligations of a pension plan are expected to continue for the lifetime of its active and inactive participants.
- Based upon this experience, the current asset allocation, and future expectations, we have maintained the assumed long-term rate of return of 7.25%. We will continue to monitor the Plan's actual and anticipated investment returns and may revise our assumed long-term rate of return in a future actuarial valuation, if warranted.

### MARKET VALUE AND ACTUARIAL RATES OF RETURN FOR YEARS ENDED DECEMBER 31



Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	8.84%	7.67%
Most recent 10-year average return:	5.50%	5.74%
20-year average return:	7.10%	6.68%



## Non-Investment Experience

### Administrative Expenses

- Administrative expenses for the year ended December 31, 2015 of \$2,996,220 resulted in a gain of \$3,904 for the year.
- Because it is projected that these expenses will continue at this level, we have maintained the assumption of \$3,000,000 for the current year.

### Mortality Experience

- Mortality experience (more or fewer than expected deaths) yields actuarial gains or losses.
- The average number of deaths for nondisabled pensioners over the past eight years was 315 per year compared to 303 projected deaths per year. The disability mortality table was revised effective January 1, 2014. The average number of deaths for disabled pensioners over the past two years was 28.5 per year compared to 25.9 projected deaths per year.
- We will continue to monitor the mortality experience and the margin for future mortality improvement.

### Other Experience

There are other differences between projected and actual experience that appear when a new valuation is compared with projections from the previous valuation. These include the extent of turnover among the participants and retirement experience (earlier or later than projected).

### Net Liability Experience

The net gain from mortality and other experience amounted to \$4,783,770 for the last plan year, which is 0.2% of the projected actuarial accrued liability.

## Actuarial Assumptions and Methods

- The following change in assumptions was recognized for FSA and Solvency Projection purposes since the prior valuation:
  - The assumed benefit election for married pensioners changed from Life Annuity to 75% Joint and Survivor Option (“QOSA”) for future retirements.
- The valuation reflects the following recommended method changes for FSA purposes since the prior valuation:
  - The actuarial cost method was changed from Entry Age Normal to Unit Credit. The Unit Credit actuarial cost method is recommended because it provides more flexibility in determining the proposed benefit suspensions under MPRA.
  - The actuarial value of assets was set equal to market value. Market value is recommended to be consistent with the asset basis used for our projections of plan insolvency.
- The actuarial assumptions and methods can be found in *Section 4, Exhibit 6*.

## Plan Provisions

- There were no changes in plan provisions since the prior valuation.
- A summary of all plan provisions can be found in *Section 4, Exhibit 5*.

## Funding Standard Account

- A summary of the ERISA minimum funding requirements, including the exceptions that can apply, is included in *Section 3, Exhibit H*.
- On December 31, 2015, the FSA had a funding deficiency of \$443,104,399, as shown on the 2015 Schedule MB, a summary of which is shown in *Section 3, Exhibit H*. Contributions meet the legal requirement on a cumulative basis if that account shows no deficiency. For a plan that is in critical status under PPA'06, employers will generally not be penalized if a funding deficiency develops, provided the parties fulfill their obligations in accordance with the Rehabilitation Plan developed by the Trustees and the negotiated bargaining agreements reflect that Rehabilitation Plan.
- The minimum funding requirement for the year beginning January 1, 2016 is \$582,342,694.

## Pension Protection Act of 2006

### 2016 Actuarial Status Certification

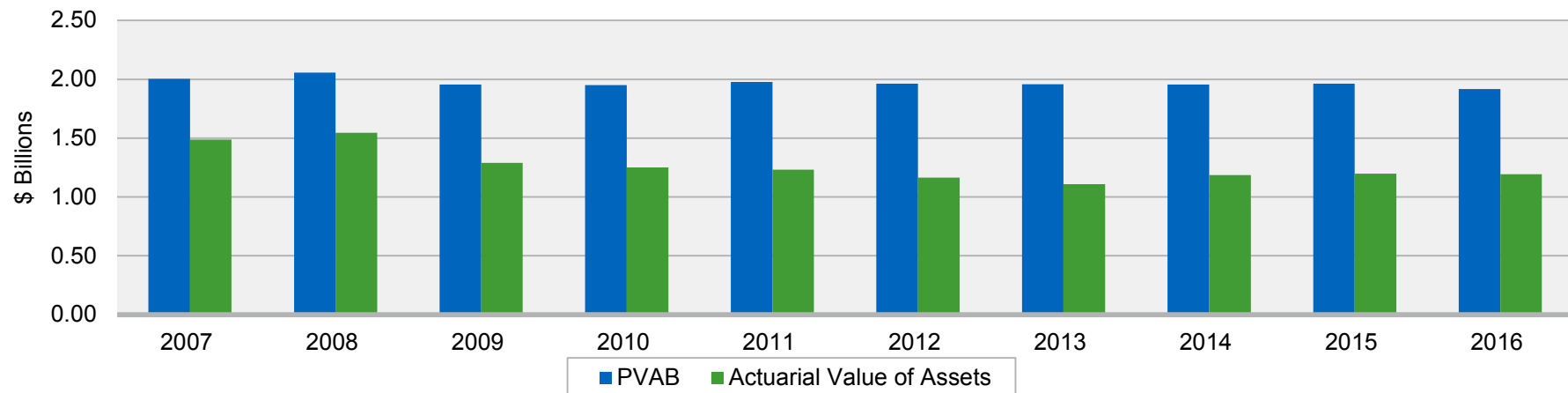
- PPA '06 requires trustees to actively monitor their plans' financial prospects to identify emerging funding challenges so they can be addressed effectively. Details are shown in *Section 3, Exhibit J*.
- The 2016 certification, completed on March 30, 2016, was based on the liabilities calculated in the January 1, 2015 actuarial valuation, adjusted for subsequent events and projected to December 31, 2015, and estimated asset information as of December 31, 2015. The Trustees provided an industry activity projection that contributory months will decline by 2% per year for the next four years, then remain level after.
- This Plan was classified as critical and declining (in the *Red Zone*) due to a projected deficiency in the FSA within 1 year and a projected insolvency within 15 years.

### Rehabilitation Plan Update

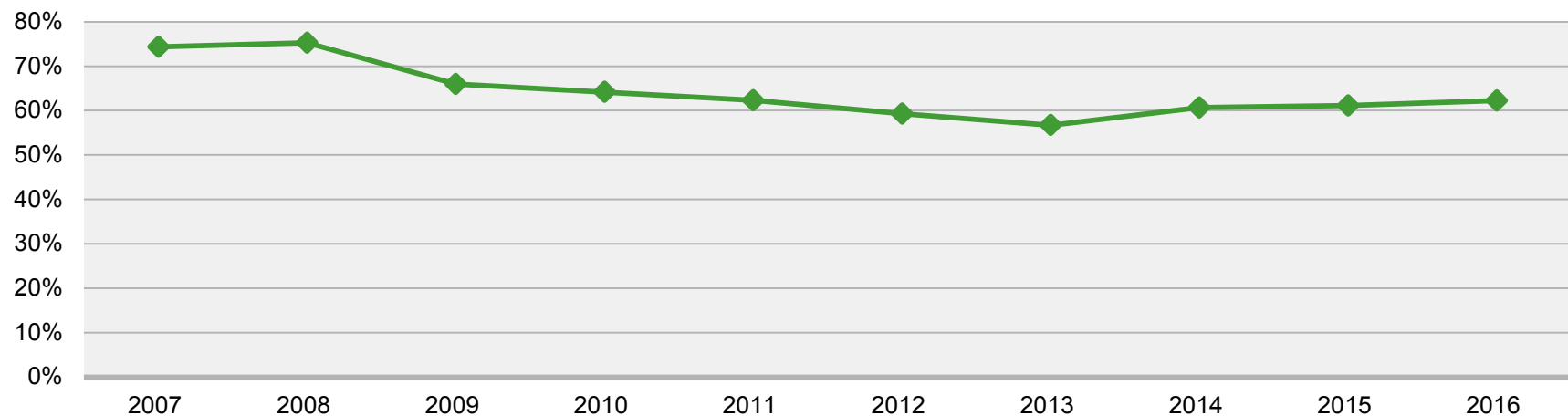
- The Trustees initially adopted a Rehabilitation Plan to enable the plan to cease being in critical status by the end of the Rehabilitation Period. Under the Rehabilitation Plan, new collective bargaining agreements negotiated on or after April 28, 2008 will include the maximum benefit reductions allowed by law. These reductions include the removal of all early retirement subsidies, joint and survivor subsidies, disability pensions, the 36-payment pre-retirement death benefit and all benefit options besides the single life annuity, QJSA or QOSA. The Rehabilitation Plan also includes supplemental off-benefit contributions to the plan beginning January 1, 2013.
- Due to the adverse experience, the Trustees have determined that they could not make any reasonable updates to the original Rehabilitation Plan to enable expected emergence from critical status. As a result, the Rehabilitation Plan was restated in 2012 for the Trustees' decision to forestall plan insolvency. Working toward that goal, the Trustees have eliminated early retirement benefits for inactive participants and have reduced the supplemental off-benefit contributions to encourage continued plan participation.
- Section 432(e)(3)(B) requires that the Trustees annually update the Rehabilitation Plan and Schedules. Segal will continue to assist the Trustees to evaluate and update the Rehabilitation Plan and prepare the required assessment of Scheduled Progress in meeting the requirements of the Rehabilitation Plan.

## PPA'06 Funded Percentage Historical Information

PRESENT VALUE OF ACCRUED BENEFITS (PVAB) VS.  
ACTUARIAL VALUE OF ASSETS AS OF JANUARY 1



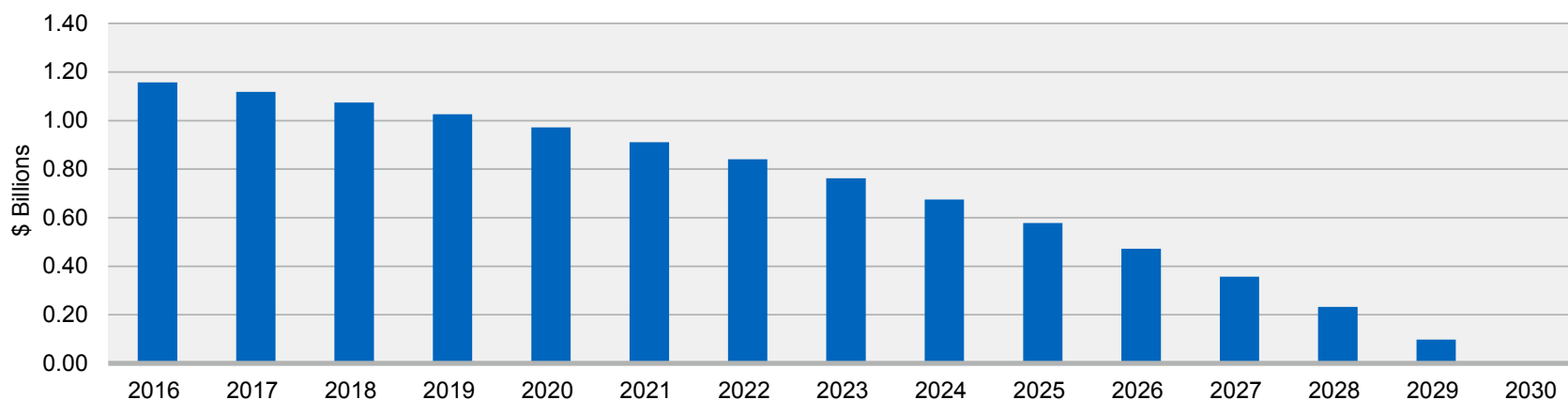
PPA '06 FUNDED PERCENTAGE AS OF JANUARY 1



## Solvency Projection

- The Plan is operating under a Rehabilitation Plan that is intended to forestall insolvency. Accordingly, this report does not contain a long-term “Scheduled Cost” measure that the Trustees could use to evaluate whether benefit levels are sustainable given negotiated contribution rates.
- The chart below shows that assets are projected to be exhausted in 2030, the same year as projected in last year’s valuation. The market value investment loss for the year was offset by the inclusion of expected future withdrawal liability payments.
- These projections are based on the plan of benefits and assumptions used in this valuation, adjusted for and including the following:
  - assumes all non-retired members are covered under the Rehabilitation Plan Default Schedule,
  - reflects the Trustees’ decision to increase contribution rates by 5% per year over 7 years, beginning January 1, 2013 (the additional contributions do not count toward benefit accruals),
  - assumes expected future withdrawal liability payments, and
  - assumes total contributory months will decline by 2% per year for the next four years, then remain level thereafter.

### PROJECTED ASSETS AS OF DECEMBER 31



## Disclosure Requirements

### Annual Funding Notice

- PPA '06 requires the annual funding notice to be provided to participants, employers, unions and government agencies. The notice must be sent by 120 days after the end of the plan year. The actuarial information to be provided in the annual funding notice is shown in *Section 3, Exhibit G*.
- The value of plan benefits earned to date as of January 1, 2016 is \$1,916,926,229 using the long-term funding interest rate of 7.25%. As the actuarial value of assets is \$1,192,990,400, the Plan's funded percentage is 62.2%, compared to 61.1% in the prior year. The funded percentage is one measure of a plan's funded status. It is not indicative of how well funded a plan may be in the future, especially in the event of plan termination.

### Current Liability

- ERISA also requires the disclosure by the actuary of the funding percentage based on "current liability" assumptions and the market value of assets, if it is less than 70%. The Plan's current liability as of January 1, 2016 is \$3,165,003,139 using an interest rate of 3.28%, based on 30-year U.S. Treasury security rates. As the market value of assets is \$1,192,990,400, this funded current liability percentage is 37.7%. This will be disclosed on the 2016 Schedule MB of IRS Form 5500. Details are shown in *Section 4, Exhibit 9*.

### Accounting Information

- The Financial Accounting Standards Board (FASB) requires determination of the present value of accumulated plan benefits - the single-sum value of the benefits, vested or not, earned by participants as of the valuation date. Additional details on the present value of the accumulated plan benefits can be found in *Section 4, Exhibit 2*.
- These present values are determined based on the plan of benefits reflected for FSA purposes and are based upon the actuarial assumptions used to determine the ERISA funding costs of the ongoing Plan. These are not appropriate liability measurements for other purposes such as if the Plan were to terminate.



## Section 3: Supplementary Information

### EXHIBIT A - TABLE OF PLAN COVERAGE

Category	Year Ended December 31		Change from Prior Year
	2014	2015	
<b>Active participants in valuation:</b>			
• Number	4,026	3,923	-2.6%
• Average age	45.1	45.1	N/A
• Average years of Credited Service	12.4	12.3	N/A
• Average credited contribution rate for upcoming year for benefit accruals	\$398.43	\$399.29	0.2%
• Number with unknown age	17	3	N/A
• Total active vested participants	3,000	2,836	-5.5%
<b>Inactive participants with rights to a pension:</b>			
• Number	10,470	10,394	-0.7%
• Average age	54.4	54.9	N/A
• Average monthly benefit	\$874	\$891	1.9%
<b>Pensioners (including disableds):</b>			
• Number in pay status	8,837	8,777	-0.7%
• Average age	72.9	73.3	N/A
• Average monthly benefit	\$1,131	\$1,140	0.8%
• Number in suspended status	53	43	-18.9%
<b>Beneficiaries:</b>			
• Number in pay status	2,410	2,419	0.4%
• Average age	75.2	75.5	N/A
• Average monthly benefit	431	447	3.7%

## EXHIBIT B - PARTICIPANT POPULATION

Year Ended December 31	Active Participants	Inactive Vested Participants	Pensioners and Beneficiaries	Ratio of Non-Actives to Actives
2006	6,426	11,231	9,979	3.30
2007	6,211	11,156	10,293	3.45
2008	5,661	10,856	10,698	3.81
2009	4,687	11,011	11,044	4.71
2010	4,484	10,882	11,243	4.93
2011	4,180	10,749	11,402	5.30
2012	4,031	10,709	11,419	5.49
2013	3,979	10,602	11,377	5.52
2014	4,026	10,470	11,300	5.41
2015	3,923	10,394	11,239	5.51

## EXHIBIT C - EMPLOYMENT HISTORY

Year Ended December 31	Total Months of Contributions		Active Participants		Average Months of Contributions	
	Number	Percent Change	Number	Percent Change	Number	Percent Change
2006	75,015	-5.6%	6,426	-7.5%	11.7	2.6%
2007	71,943	-4.1%	6,211	-3.3%	11.6	-0.9%
2008	65,874	-8.4%	5,661	-8.9%	11.6	0.0%
2009	55,385	-15.9%	4,687	-17.2%	11.8	1.7%
2010	52,392	-5.4%	4,484	-4.3%	11.7	-0.8%
2011	48,940	-6.6%	4,180	-6.8%	11.7	0.0%
2012	46,993	-4.0%	4,031	-3.6%	11.7	0.0%
2013	46,296	-1.5%	3,979	-1.3%	11.6	-0.9%
2014	46,771	1.0%	4,026	1.2%	11.6	0.0%
2015	45,564	-2.6%	3,923	-2.6%	11.6	0.0%
Five-year average months:					11.6	
Ten-year average months:					11.7	

## EXHIBIT D - SUMMARY STATEMENT OF INCOME AND EXPENSES ON AN ACTUARIAL BASIS

	Year Ended December 31, 2014	Year Ended December 31, 2015
<b>Contribution income:</b>		
• Employer contributions	\$21,483,704	\$20,894,823
• Withdrawal liability payments	6,788,280	8,600,901
• Liquidated damages	33,666	116,551
• Less administrative expenses	<u>-2,419,630</u>	<u>-2,996,220</u>
<i>Net contribution income</i>	\$25,886,020	\$26,616,055
<b>Investment income:</b>		
• Expected investment income	\$82,066,859	\$83,075,313
• Adjustment toward market value <sup>(1)</sup>	<u>39,404,588</u>	<u>10,479,841</u>
<i>Net investment income</i>	121,471,447	93,555,154
<b>Total income available for benefits</b>	<b>\$147,357,467</b>	<b>\$120,171,209</b>
<b>Less benefit payments</b>	<b>-\$133,798,195</b>	<b>-\$133,827,365</b>
<b>Change in actuarial asset method</b>	<b>\$0</b>	<b>\$7,174,518</b>
<b>Change in reserve for future benefits</b>	<b>\$13,559,272</b>	<b>-\$6,481,638</b>

<sup>(1)</sup> Recognizes the difference in market value (\$5,747,487 for 2014 and \$5,119,780 for 2015) between the draft audit report used for the prior year's valuation and the final audit report.

## EXHIBIT E - FINANCIAL INFORMATION TABLE

	Year Ended December 31, 2014	Year Ended December 31, 2015
<b>Cash equivalents</b>	\$13,894,118	\$18,539,310
<b>Accounts receivable:</b>		
• Employer contributions	\$1,500,916	\$1,289,383
• Accrued investment income	<u>5,157,569</u>	<u>4,536,815</u>
<i>Total accounts receivable</i>	6,658,485	5,826,198
<b>Investments:</b>		
• Common stock	\$633,908,820	589,294,764
• Corporate obligations	188,110,956	165,735,087
• Collective trusts	136,023,143	106,611,606
• Limited partnerships	87,348,619	79,360,652
• Limited liability companies and other private equity	42,329,503	38,702,985
• U.S. Government and Government Agency obligations	25,682,181	18,878,670
• Real estate investment fund	64,798,679	73,728,300
• U.S. Treasury notes	66,773,205	63,985,706
• Cash equivalents	33,893,127	34,600,106
• Real estate investment trusts	2,047,131	0
• Mutual funds	<u>816,199</u>	<u>1,045,445</u>
<i>Total investments at market value</i>	1,281,731,563	1,171,943,321
<b>Total assets</b>	<b>\$1,302,284,166</b>	<b>\$1,196,308,829</b>
<b>Less accounts payable</b>	<b>-\$4,616,099</b>	<b>-\$3,318,429</b>
<b>Net assets at market value</b>	<b>\$1,297,668,067*</b>	<b>\$1,192,990,400</b>
<b>Net assets at actuarial value</b>	<b>\$1,199,472,038</b>	<b>\$1,192,990,400</b>

\* Based on a draft audit report used for the prior year's valuation. The market value in the final audit report was revised by \$5,119,780 to \$1,302,787,847.

## EXHIBIT F - INVESTMENT RETURN – ACTUARIAL VALUE VS. MARKET VALUE

Year Ended December 31	Actuarial Value Investment Return*		Market Value Investment Return		Year Ended December 31	Actuarial Value Investment Return*		Market Value Investment Return	
	Amount	Percent	Amount	Percent		Amount	Percent	Amount	Percent
1996	\$112,854,729	14.95%	\$121,975,932	14.60%	2006	\$92,832,022	6.49%	\$195,157,758	14.03%
1997	187,327,378	22.24%	205,092,727	21.88%	2007	131,895,915	9.08%	114,762,992	7.58%
1998	195,373,452	19.54%	213,521,275	19.19%	2008	-175,242,416	-11.64%	-435,550,927	-28.08%
1999	81,780,749	7.05%	74,274,648	5.75%	2009	60,972,513	4.91%	239,476,303	23.35%
2000	177,747,357	14.75%	54,220,234	4.08%	2010	77,802,636	6.47%	151,288,010	12.97%
2001	79,973,253	5.87%	-9,069,183	-0.67%	2011	42,140,746	3.58%	4,437,230	0.37%
2002	45,393,706	3.19%	-89,236,183	-6.68%	2012	48,750,735	4.38%	146,396,089	13.17%
2003	61,192,070	4.28%	184,138,629	15.25%	2013	183,962,564	17.42%	228,350,850	19.81%
2004	60,565,457	4.20%	100,886,814	7.52%	2014	121,471,447	10.73%	78,292,262	6.15%
2005	53,952,656	3.74%	74,528,689	5.39%	2015	100,729,672	8.79%	2,533,643	0.20%
					Total	\$1,741,476,641		\$1,655,477,792	
					<b>Most recent 5-year average return:</b>		<b>8.84%</b>	<b>7.67%</b>	
					<b>Most recent 10-year average return:</b>		<b>5.50%</b>	<b>5.74%</b>	
					<b>20-year average return:</b>		<b>7.10%</b>	<b>6.68%</b>	

Note: Each year's yield is weighted by the average asset value in that year.

\* The investment returns for 2000 and 2015 include the effect of a change in the method for determining the actuarial value of assets.

## EXHIBIT G - ANNUAL FUNDING NOTICE FOR PLAN YEAR BEGINNING JANUARY 1, 2016 AND ENDING DECEMBER 31, 2016

	2016 Plan Year	2015 Plan Year	2014 Plan Year
Actuarial valuation date	January 1, 2016	January 1, 2015	January 1, 2014
Funded percentage	62.2%	61.1%	60.7%
Value of assets	\$1,192,990,400	\$1,199,472,038	\$1,185,912,766
Value of liabilities	1,916,926,229	1,962,292,229	1,954,700,784
Fair value of assets as of plan year end	Not available	1,192,990,400	1,297,668,067

### Critical or Endangered Status

The Plan was in critical status in the plan year for the following five reasons:

1. The plan had a projected Funding Standard Account funding deficiency within 4 years; and
2. The plan had a funded percentage less than 65% and a projected funding deficiency within 5 years; and
3. The plan's inactive vested liability exceeded that for actives and the plan had a projected funding deficiency within 5 years and the plan's projected contributions fall short of the plan's normal cost plus interest on unfunded liability; and
4. The plan was in critical status last year and had a projected funding deficiency within 10 years; and
5. The plan was in critical status last year and had a projected insolvency within 30 years.

The plan was also in critical and declining status because:

1. The plan had a ratio of inactives to actives of at least 2 to 1 and had a projected insolvency within 20 years; and
2. The plan had a funded percentage less than 80% and had a projected insolvency within 20 years; and
3. The plan has a projected insolvency within 15 years.

## EXHIBIT H - FUNDING STANDARD ACCOUNT

- ERISA imposes a minimum funding standard that requires the Plan to maintain an FSA. The accumulation of contributions in excess of the minimum required contributions is called the FSA credit balance. If actual contributions fall short on a cumulative basis, a funding deficiency has occurred. For a plan that is in critical status under PPA'06, employers will generally not be penalized if a funding deficiency develops, provided the parties fulfill their obligations in accordance with the Rehabilitation Plan developed by the Trustees and the negotiated bargaining agreements reflect that Rehabilitation Plan.
- The FSA is charged with the normal cost and the amortization of increases or decreases in the unfunded actuarial accrued liability due to plan amendments, experience gains or losses, and changes in actuarial assumptions and funding methods. The FSA is credited with employer contributions and withdrawal liability payments. All items, including the prior credit balance or deficiency, are adjusted with interest at the actuarially assumed rate.
- Increases or decreases in the unfunded actuarial accrued liability are amortized over 15 years except that short-term benefits, such as 13<sup>th</sup> checks, are amortized over the scheduled payout period.

### FSA FOR THE YEAR ENDED DECEMBER 31, 2015

Charges			Credits		
1	Prior year funding deficiency	\$332,583,760	6	Prior year credit balance	\$0
2	Normal cost, including administrative expenses	6,156,802	7	Employer contributions	29,612,275
3	Total amortization charges	122,965,604	8	Total amortization credits	19,943,817
4	Interest to end of the year	<u>33,473,697</u>	9	Interest to end of the year	2,519,372
5	Total charges	\$495,179,863	10	Full-funding limitation credit	<u>0</u>
			11	Total credits	\$52,075,464
				Credit balance (Funding deficiency):	<u>-\$443,104,399</u>
				11 - 5	



## EXHIBIT I - MAXIMUM DEDUCTIBLE CONTRIBUTION

- Employers that contribute to defined benefit pension plans are allowed a current deduction for payments to such plans. There are various measures of a plan's funded level that are considered in the development of the maximum deductible contribution amount.
- One of the limits is the excess of 140% of "current liability" over assets. "Current liability" is one measure of the actuarial present value of all benefits earned by the participants as of the valuation date. This limit is significantly higher than the current contribution level.
- Contributions in excess of the maximum deductible amount are not prohibited; only the deductibility of these contributions is subject to challenge and may have to be deferred to a later year. In addition, if contributions are not fully deductible, an excise tax in an amount equal to 10% of the non-deductible contributions may be imposed. However, the plan sponsor may elect to exempt the non-deductible amount up to the ERISA full-funding limitation from the excise tax.
- The Trustees should review the interpretation and applicability of all laws and regulations concerning any issues as to the deductibility of contribution amounts with Fund Counsel.

<b>1</b> Normal cost, including administrative expenses	\$8,160,791
<b>2</b> Amortization of unfunded actuarial accrued liability (fresh start as of January 1, 2016)	97,218,198
<b>3</b> Preliminary maximum deductible contribution: <b>1 + 2</b> , with interest to the end of the plan year	\$113,018,966
<b>4</b> Full-funding limitation (FFL)	1,694,161,885
<b>5</b> Preliminary maximum deductible contribution, adjusted for FFL: <b>lesser of 3 and 4</b>	113,018,966
<b>6</b> Current liability, projected to the end of the plan year	3,140,587,038
<b>7</b> Actuarial value of assets, projected to the end of the plan year	1,132,366,450
<b>8</b> Excess of 140% of current liability over projected assets at end of plan year: <b>[140% of (6)] - (7)</b> , not less than zero	3,264,455,404
<b>9</b> End of year minimum required contribution	582,342,694
<b>Maximum deductible contribution: <b>greatest of 5, 8, and 9</b></b>	<b>\$3,264,455,404</b>

## EXHIBIT J - PENSION PROTECTION ACT OF 2006

### PPA'06 Zone Status

- Based on projections of the credit balance in the FSA, the funded percentage, and cash flow sufficiency tests, plans are categorized in one of three “zones”: critical status, endangered status, or neither.
- The funded percentage is determined using the actuarial value of assets and the present value of benefits earned to date, based on the actuary’s best estimate assumptions.

#### Critical Status (Red Zone)

A plan is classified as being in critical status (the *Red Zone*) if:

- The funded percentage is less than 65%, and either there is a projected FSA deficiency within five years or the plan is projected to be unable to pay benefits within seven years, or
- There is a projected FSA deficiency within four years, or
- There is a projected inability to pay benefits within five years, or
- The present value of vested benefits for inactive participants exceeds that for actives, contributions are less than the value of the current year’s benefit accruals plus interest on existing unfunded accrued benefit liabilities, and there is a projected FSA deficiency within five years, or
- As permitted by the Multiemployer Pension Reform Act of 2014, the plan is projected to be in the *Red Zone* within five years and the plan sponsor elects to be in critical status.

A critical status plan is further classified as being in critical and declining status if:

- The ratio of inactives to actives is at least 2 to 1, and there is an inability to pay benefits projected within 20 years, or
- The funded percentage is less than 80%, and there is an inability to pay benefits projected within 20 years, or
- There is an inability to pay benefits projected within 15 years.

Any amortization extensions are ignored for testing initial entry into the *Red Zone*.

The Trustees are required to adopt a formal Rehabilitation Plan, designed to allow the plan to emerge from critical status by the end of the rehabilitation period. If they determine that such emergence is not reasonable, the Rehabilitation Plan must be designed to emerge as of a later time or to forestall possible insolvency.

Trustees of *Red Zone* plans have tools, such as the ability to reduce or eliminate early retirement subsidies, to remedy the situation. Accelerated forms of benefit payment (such as lump sums) are prohibited. However, unless the plan is critical and declining, Trustees may not reduce benefits of participants who retired before being notified of the plan’s critical status (other than rolling back recent benefit increases) or alter core retirement benefits payable at normal retirement age.

<b>Endangered Status (Yellow Zone)</b>	<p>A plan not in critical status (<i>Red Zone</i>) is classified as being in endangered status (the <i>Yellow Zone</i>) if:</p> <ul style="list-style-type: none"> <li>• The funded percentage is less than 80%, or</li> <li>• There is a projected FSA deficiency within seven years.</li> </ul> <p>A plan that has both of the endangered conditions present is classified as seriously endangered.</p> <p>Trustees of a plan that was in the <i>Green Zone</i> in the prior year can elect not to enter the <i>Yellow Zone</i> in the current year (although otherwise required to do so) if the plan's current provisions would be sufficient (with no further action) to allow the plan to emerge from the <i>Yellow Zone</i> within 10 years.</p> <p>The Trustees are required to adopt a formal Funding Improvement Plan, designed to improve the current funded percentage, and avoid a funding deficiency as of the emergence date.</p>
<b>Green Zone</b>	<p>A plan not in critical status (the <i>Red Zone</i>) nor in endangered status (the <i>Yellow Zone</i>) is classified as being in the <i>Green Zone</i>.</p>
<b>Early Election or Critical Status</b>	<p>Trustees of a <i>Green</i> or <i>Yellow Zone</i> plan that is projected to enter the <i>Red Zone</i> within five years must elect whether or not to enter the <i>Red Zone</i> for the current year.</p>

## EXHIBIT K - SECTION 415 LIMITATIONS

- Section 415 of the IRC specifies in terms of pay or dollars the maximum benefit that may be paid to an individual from a defined benefit plan and the maximum amount that may be allocated each year to an individual's account in a defined contribution plan.
- If an individual is covered only by multiemployer plans, the plans' benefits do not have to be combined. If the individual is covered by a multiemployer and a single-employer plan, the benefits from all plans maintained by the same employer are combined. Multiemployer plan benefits do not need to be combined with single-employer plan benefits in testing the pay-based limit but are combined for testing the dollar-based limit.
- A qualified pension plan may not pay benefits in excess of the IRC Section 415 limits. Non-compliance can result in disqualification of the plan; the plan could lose its tax-exempt status, employers could lose their deductions and active participants could be taxed on their vested benefits.
- Section 415(b) as amended by the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) limits the maximum annual benefit payable to a dollar limit of \$160,000 indexed for inflation. The dollar limit indexed for inflation has remained unchanged at \$210,000 for 2015 and 2016. The limits must be adjusted based on each participant's circumstances for such things as age at retirement and form of benefits chosen.
- While the actual determination of the exact limits applicable to each participant's benefit can only be determined when the individual retires and applies for benefits, the overall impact of the Section 415 dollar limits has been reflected in this valuation for minimum and maximum funding purposes, based on our understanding of the requirements of IRC Sections 404, 412, 415, and 431 and the data available to us.
- The Trustees should review the interpretation and applicability of the law and regulations in this area with Fund Counsel.

## Section 4: Certificate of Actuarial Valuation

JUNE 7, 2016

### CERTIFICATE OF ACTUARIAL VALUATION

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. (“Segal”) has prepared an actuarial valuation of the Automotive Industries Pension Plan as of January 1, 2016 in accordance with generally accepted actuarial principles and practices. It has been prepared at the request of the Board of Trustees to assist in administering the Fund and meeting filing requirements of federal government agencies. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

The valuation is based on the assumption that the Plan is qualified as a multiemployer plan for the year and on draft information supplied by the auditor with respect to contributions and assets and reliance on the Plan Administrator with respect to the participant data. Segal Consulting does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results. Adjustments for incomplete or apparently inconsistent data were made as described in the attached *Exhibit 6*.

I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate, except as noted in *Exhibit 1*. Each prescribed assumption for the determination of Current Liability was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

Redacted by the U.S. Department of the Treasury

Paul C. Poon, ASA, MAAA  
Associate Actuary  
Enrolled Actuary No. 14-06069

## EXHIBIT 1 - SUMMARY OF ACTUARIAL VALUATION RESULTS

The valuation was made with respect to the following data supplied to us by the Plan Administrator:

Pensioners as of the valuation date (including 2,419 beneficiaries in pay status and 43 pensioners in suspended status)	11,239
Participants inactive during year ended December 31, 2015 with vested rights (including 1 participant with unknown age)	10,394
Participants active during the year ended December 31, 2015 (including 3 participants with unknown age)	3,923
• Fully vested	2,836
• Not vested	1,087
<b>Total participants</b>	<b>25,556</b>

The actuarial factors as of the valuation date are as follows:

Normal cost, including administrative expenses	\$8,160,791
Actuarial present value of projected benefits	1,958,083,789
Present value of future normal costs	41,157,560
<b>Actuarial accrued liability</b>	<b>1,916,926,229</b>
• Pensioners and beneficiaries	\$1,203,131,908
• Inactive participants with vested rights	521,981,469
• Active participants	191,812,852
Actuarial value of assets (\$1,192,990,400 at market value as reported by Lindquist LLP)	\$1,192,990,400
Unfunded actuarial accrued liability	723,935,829

## EXHIBIT 2 - ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS

The actuarial present value of accumulated plan benefits calculated in accordance with FAS ASC 960 is shown below as of January 1, 2015 and as of January 1, 2016. In addition, the factors that affected the change between the two dates follow.

	Benefit Information Date	
	January 1, 2015	January 1, 2016
Actuarial present value of vested accumulated plan benefits:		
• Participants currently receiving payments	\$1,217,466,920	\$1,203,131,908
• Other vested benefits	<u>743,708,297</u>	<u>712,226,557</u>
• Total vested benefits	\$1,961,175,217	\$1,915,358,465
Actuarial present value of non-vested accumulated plan benefits	1,117,012	1,567,764
<b>Total actuarial present value of accumulated plan benefits</b>	<b>\$1,962,292,229</b>	<b>\$1,916,926,229</b>
Factors	Change in Actuarial Present Value of Accumulated Plan Benefits	
Benefits accumulated, net experience gain or loss, changes in data	\$1,988,189	
Benefits paid	<b>-133,827,365</b>	
Changes in actuarial assumptions	<b>-50,941,769</b>	
Interest	137,414,945	
<b>Total</b>	<b>-\$45,366,000</b>	

### EXHIBIT 3 - CURRENT LIABILITY<sup>1</sup>

The table below presents the current liability for the Plan Year beginning January 1, 2016.

Item	Amount
Retired participants and beneficiaries receiving payments	\$1,701,306,908
Inactive vested participants	1,069,256,570
Active participants	
• Non-vested benefits	\$10,739,461
• Vested benefits	<u>383,700,200</u>
• <i>Total active</i>	\$394,439,661
<b>Total</b>	<b>\$3,165,003,139</b>
Expected increase in current liability due to benefits accruing during the plan year	\$12,616,560
Expected release from current liability for the plan year	138,979,326
Expected plan disbursements for the plan year, including administrative expenses of \$3,000,000	\$141,979,326
Current value of assets	\$1,192,990,400
Percentage funded for Schedule MB	37.7%

<sup>1</sup> The actuarial assumptions used to calculate these values are shown in *Exhibit 6*.



## EXHIBIT 4 - INFORMATION ON PLAN STATUS AS OF JANUARY 1, 2016

Plan status (as certified on March 30, 2016, for the 2016 zone certification)	<b><i>Critical and Declining</i></b>
Scheduled progress (as certified on March 30, 2016, for the 2016 zone certification)	Yes
Actuarial value of assets for FSA	\$1,192,990,400
Accrued liability under unit credit cost method	1,916,926,229
Funded percentage for monitoring plan's status	62.2%
Reduction in unit credit accrued liability benefits since the prior valuation date resulting from the reduction in adjustable benefits	\$0
Year in which insolvency is expected	2030

## EXHIBIT 5 - SUMMARY OF PLAN PROVISIONS

### (SCHEDULE MB, LINE 6)

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

<b>Plan Year</b>	January 1 through December 31
<b>Pension Credit Year</b>	January 1 through December 31
<b>Plan Status</b>	Ongoing plan
<b>Normal Pension</b>	<ul style="list-style-type: none"> <li>• <i>Age Requirement:</i> 65</li> <li>• <i>Service Requirement:</i> 5 years of Credited Service (including 24 months of Future Service)</li> <li>• <i>Amount:</i> The monthly amount is the sum of (a), (b), (c), (d) and (e). <ul style="list-style-type: none"> <li>a. \$10.00 for each year of Past Service.</li> <li>b. \$5.00 for each \$100 of the contributions made on the participant's behalf from his Contribution Date through June 30, 2003.</li> <li>c. \$3.00 for each \$100 of the contributions made on the participant's behalf from July 1, 2003 through December 31, 2004.</li> <li>d. 0.5% for the first \$250 of monthly contributions, 1.0% for the next \$250 of monthly contributions, and 2.0% of monthly contributions in excess of \$500 made on the participant's behalf on or after January 1, 2005.</li> <li>e. 1.0% of monthly contributions made on the participant's behalf on or after July 1, 2008.</li> </ul> </li> </ul> <p>Contribution increases under the Rehabilitation Plan do not count for benefit accruals.</p>
<b>Early Retirement Pension</b>	<ul style="list-style-type: none"> <li>• <i>Age Requirement:</i> 55</li> <li>• <i>Service Requirement:</i> 60 months of Credited Future Service</li> <li>• <i>Amount:</i> Accrued Normal Pension amount to which the participant would be entitled, reduced by 3% for each year that the retiring employee is younger than 62 (no reduction is applied between ages 62 and 65 for the Unreduced Early Pension, or if participants age and service total at least 85 for the Unreduced Rule of 85 Pension). For participants subject to the Rehabilitation Plan benefit reductions, all Early Retirement Pensions are reduced from age 65, using the plan's actuarial equivalence basis. This benefit is not available to those who retire from inactive status.</li> </ul>

<b>Disability Pension</b>	<ul style="list-style-type: none"> <li>• Age Requirement: None</li> <li>• Service Requirement: 5 years of Credited Service (including 24 months of Future Service)</li> <li>• Other Requirements: Eligible for a Social Security disability benefit.</li> <li>• Amount: Accrued Normal Pension amount to which the participant would be entitled (on his date of disability) without any reduction. For participants subject to the Rehabilitation Plan benefit reductions, the Disability Pension is not available and those who become disabled are eligible only for the Vested Benefit described below.</li> </ul>
<b>Vested Benefit</b>	<ul style="list-style-type: none"> <li>• <i>Age Requirement:</i> None</li> <li>• <i>Service Requirement:</i> 5 years of Credited Service (including 24 months of Future Service)</li> <li>• <i>Amount:</i> Accrued Normal Pension, payable commencing at Normal Retirement Age, or, if available (on a reduced basis), as early as age 55.</li> <li>• <i>Normal Retirement Age:</i> The later of age 65 and the fifth anniversary of participation.</li> </ul>
<b>Spouse's Benefit</b>	<ul style="list-style-type: none"> <li>• <i>Age Requirement:</i> None</li> <li>• <i>Service Requirement:</i> 5 years of Credited Service (including 24 months of Future Service)</li> <li>• <i>Amount:</i> 50% of the benefit that the participant would have received had he or she retired the day before death on a Joint and Survivor Annuity. If the participant is not eligible to retire at the time of death, payments will be deferred until the participant's earliest retirement age.</li> </ul>
<b>Pre-Retirement Death Benefit</b>	<ul style="list-style-type: none"> <li>• <i>Age Requirement:</i> None</li> <li>• <i>Service Requirement:</i> 5 years of Credited Service (including 24 months of Future Service)</li> <li>• <i>Amount:</i> Return of the total contributions made on account of the participant's employment or, if greater, the participant's unreduced pension at time of death payable for 36 months. This benefit is not payable if benefits are due under the Spouse's Benefit or for participants subject to the Rehabilitation Plan benefit reductions.</li> </ul>
<b>Joint and Survivor Annuity</b>	<p>All retirements are paid in the form of a 50% joint and survivor annuity unless this form is rejected by the participant and spouse. The benefit amount otherwise payable is reduced to reflect the joint and survivor coverage. If the spouse predeceases the participant, the benefit "pops-up" to the amount is payable before the reduction. If this type of pension is rejected, benefits are payable for the life of the participant without reduction (with a minimum guarantee of 36 monthly payments) or in any other available optional form elected by the participant. For participants subject to the Rehabilitation Plan benefit reductions, the "pop-up" feature and the 36-month guarantee are not available, and the joint and survivor reduction factors are based on the plan's actuarial equivalence basis.</p>

<b>Optional Forms of Benefit Payment</b>	<ul style="list-style-type: none"> <li>• 50% Joint and Survivor Option (“QJSA”)</li> <li>• 75% Joint and Survivor Option (“QOSA”)</li> <li>• Life with 36-Month Guarantee Option</li> <li>• Life with 120-Month Guarantee Option</li> <li>• Full 100% Joint and Survivor Option</li> </ul> <p>Aside from a life only annuity, QJSA and QOSA, these options are not available for participants subject to the Rehabilitation Plan benefit reductions.</p>
<b>Credited Service Schedule</b>	<p>Commencing January 1, 1976 a year of Future Service is credited during any Plan Year in which the participant completes at least 5 months of covered service. (No fractional credit is granted.) Prior to January 1, 1976, Future Service was granted at the rate of one-twelfth of a year for each month of contribution payments.</p> <p>Past Service is credited for service prior to the Contribution Date up to a maximum of 20 years for members who became participants prior to January 1, 1975 and 10 years for members who entered the Plan after January 1, 1975. For participants who joined the Plan after 1978, the amount of Credited Past Service can not exceed the Credited Future Service earned under the Plan.</p>
<b>Break-in-Service Rules</b>	<ul style="list-style-type: none"> <li>• <i>One-Year Break:</i> A participant incurs a One-Year Break in Service if he or she fails to complete five months of service or 501 hours of service in a Plan Year.</li> <li>• <i>Permanent Break:</i> A non-vested participant incurs a Permanent Break in Service if the number of consecutive One-Year Breaks in Service is at least 5 and it equals or exceeds the number of years of Credited Service which the employee had previously accumulated. At this time, the non-vested portion of the participant’s service and benefits accrued are canceled.</li> </ul>
<b>Participation Rule</b>	An employee becomes a “Participant” the first day of the first month for which an employer contribution was made.
<b>Contribution Rate</b>	The average benefit contribution rate on January 1, 2016 was \$399.29 per month.
<b>Plan Amendments</b>	There were no changes in plan provisions reflected in this actuarial valuation

## EXHIBIT 6 - STATEMENT OF ACTUARIAL ASSUMPTIONS/METHODS

### (SCHEDULE MB, LINE 6)

#### Mortality Rates

*Healthy:* RP-2000 Combined Healthy Mortality Tables, set back 1 year

*Disabled:* RP-2000 Combined Healthy Mortality Tables, set forward 3 years

The tables contain approximately a margin of 4% (actual deaths compared to expected deaths) as a provision for future mortality improvement.

The mortality rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of deaths and the projected number based on the assumption over the most recent 8 years.

#### Termination Rates before Retirement

Age	Rate (%)			
	Mortality			
	Male	Female	Disability	Withdrawal*
20	0.03	0.02	0.05	21.20
25	0.04	0.02	0.06	15.80
30	0.04	0.02	0.08	11.60
35	0.07	0.04	0.11	8.40
40	0.10	0.06	0.17	6.20
45	0.14	0.10	0.27	4.20
50	0.20	0.16	0.45	2.60
55	0.32	0.24	0.76	1.00
60	0.59	0.44	1.22	0.00

\* Withdrawal rates under age 55 are increased by 6 percentage points for the first 5 years of service. Withdrawal rates do not apply at retirement eligibility.

The termination rates and disability rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of terminations and disability retirements and the projected number based on the assumption over the most recent 8 years.

**Retirement Rates**

Age	Annual Retirement Rates
55 – 60	5%
61	15
62	35
63-64	25
65	50
66	30
67	100

The retirement rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements and the projected number based on the assumption over the most recent 8 years.

<b>Description of Weighted Average Retirement Age</b>	Age 62.2, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active participants included in this actuarial valuation.
<b>Retirement Age for Inactive Vested Participants</b>	Age 65  The retirement age for inactive vested participants was based on historical and current demographic data, adjusted to reflect the plan design, estimated future experience and professional judgment. As part of the analysis, the ages of new retirees from inactive vested status were reviewed.
<b>Future Benefit Accruals</b>	Work-year of 11.2 months of contributions per active participant.  The future benefit accruals were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the assumed and the actual benefit accruals over the most recent 10 years.
<b>Unknown Data for Participants</b>	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.
<b>Definition of Active Participants</b>	Active participants are defined as those with at least five months in the most recent Plan Year, excluding those who have retired as of the valuation date.

<b>Exclusion of Inactive Vesteds</b>	<p>Inactive participants over age 70 excluded from the valuation.</p> <p>The exclusion of inactive vested participants over age 70 was based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, the ages of new retirees from inactive vested status were reviewed.</p>
<b>Percent Married</b>	85%
<b>Age of Spouse</b>	Females 4 years younger than males.
<b>Benefit Election</b>	<p>For future retirements, married participants are assumed to elect the 75% Joint and Survivor Option ("QOSA") and non-married participants are assumed to elect the Straight Life Annuity.</p> <p>The benefit elections were based on historical and current demographic data, adjusted to reflect the plan design, estimated future experience and professional judgment. As part of the analysis, a comparison was made between the assumed and the actual option election patterns over the most recent 8 years.</p>
<b>Net Investment Return</b>	<p>7.25%</p> <p>The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Segal Rogerscasey, as well as the Plan's target asset allocation.</p>
<b>Annual Administrative Expenses</b>	<p>\$3,000,000, payable monthly (equivalent to \$2,888,977 payable at the beginning of the year).</p> <p>The annual administrative expenses were based on historical and current data, adjusted to reflect estimated future experience and professional judgment.</p>
<b>Actuarial Value of Assets</b>	At market value.
<b>Actuarial Cost Method</b>	Unit Credit Actuarial Cost Method. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service.
<b>Benefits Valued</b>	Unless otherwise indicated, includes all benefits summarized in <i>Exhibit 5</i> .
<b>Current Liability Assumptions</b>	<p><i>Interest</i>: 3.28%, within the permissible range prescribed under IRC Section 431(c)(6)(E)</p> <p><i>Mortality</i>: Mortality prescribed under IRS Regulations 1.431(c)(6)-1 and 1.430(h)(3)-1: RP-2000 tables projected forward to the valuation year plus seven years for annuitants and 15 years for nonannuitants</p>
<b>Estimated Rate of Investment Return</b>	<p><i>On actuarial value of assets (Schedule MB, line 6g)</i>: 8.2%, for the Plan Year ending December 31, 2015</p> <p><i>On current (market) value of assets (Schedule MB, line 6h)</i>: .2%, for the Plan Year ending December 31, 2015</p>

<b>FSA Contribution Timing (Schedule MB, line 3a)</b>	Unless otherwise noted, contributions are paid periodically throughout the year pursuant to collective bargaining agreements. The interest credited in the Funding Standard Account is therefore assumed to be equivalent to a July 1st contribution date.
<b>Justification for Change in Actuarial Assumptions (Schedule MB, line 11)</b>	<p>For purposes of determining current liability, the current liability interest rate was changed due to a change in the permissible range and recognizing that any rate within the permissible range satisfies the requirements of IRC Section 431(c)(6)(E) and the mortality tables were changed in accordance with IRS Regulations 1.431(c)(6)-1 and 1.430(h)(3)-1.</p> <p>Based on past experience and future expectations, the following actuarial assumption was changed as of December 31, 2015:</p> <ul style="list-style-type: none"> <li>➤ Benefit election for married future pensioners, previously Straight Life Annuity.</li> </ul>
<b>Method Changes</b>	<p>The following actuarial methods were changed as of January 1, 2016. Both changes are subject to automatic approval pursuant to IRS Revenue Procedure 2000-40.</p> <ul style="list-style-type: none"> <li>➤ Actuarial cost method, previously Entry Age Normal.</li> <li>➤ Asset method, previously the actuarial value of assets calculated as the market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five-year period. The actuarial value is further adjusted, if necessary, to be within 20% of the market value.</li> </ul>



**EXHIBIT 7 - SCHEDULE OF PROJECTION OF EXPECTED BENEFIT PAYMENTS**  
(SCHEDULE MB, LINE 8b(1))

Plan Year	Expected Annual Benefit Payments
2016	\$138,810,556
2017	139,673,967
2018	141,303,784
2019	143,275,235
2020	145,805,531
2021	148,361,811
2022	152,194,330
2023	155,050,537
2024	157,330,833
2025	159,421,896

## EXHIBIT 8 - SCHEDULE OF ACTIVE PARTICIPANT DATA

(SCHEDULE MB, LINE 8b(2))

The participant data is for the year ended December 31, 2015

Age	Years of Credited Service									
	Total	1-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	162	156	6	–	–	–	–	–	–	–
25 - 29	337	235	91	11	–	–	–	–	–	–
30 - 34	428	208	140	72	8	–	–	–	–	–
35 - 39	447	158	106	105	73	5	–	–	–	–
40 - 44	467	121	90	114	104	36	2	–	–	–
45 - 49	505	84	85	125	112	56	40	3	–	–
50 - 54	647	75	73	136	133	93	96	39	2	–
55 - 59	556	35	46	92	112	79	108	59	25	–
60 - 64	287	7	25	44	60	50	50	24	23	4
65 - 69	80	4	3	17	20	9	12	4	4	7
70 & over	4	1	1	–	1	–	–	–	–	1
Unknown	3	3	–	–	–	–	–	–	–	–
<b>Total</b>	<b>3,923</b>	<b>1,087</b>	<b>666</b>	<b>716</b>	<b>623</b>	<b>328</b>	<b>308</b>	<b>129</b>	<b>54</b>	<b>12</b>

## EXHIBIT 9 - FUNDING STANDARD ACCOUNT

The table below presents the FSA for the Plan Year ending December 31, 2016.

Charges		Credits	
<b>1</b>	Prior year funding deficiency \$443,104,399	<b>6</b>	Prior year credit balance \$0
<b>2</b>	Normal cost, including administrative expenses 8,160,791	<b>7</b>	Amortization credits 31,253,922
<b>3</b>	Amortization charges 122,965,603	<b>8</b>	Interest on <b>6 and 7</b> 2,265,909
<b>4</b>	Interest on <b>1, 2 and 3</b> 41,631,732	<b>9</b>	Full-funding limitation credit 0
<b>5</b>	Total charges \$615,862,525	<b>10</b>	Total credits \$33,519,831
Minimum contribution with interest required to avoid a funding deficiency: <b>5 - 10</b> , not less than zero			\$582,342,694

### Full funding limitations (FFL) and credits:

ERISA FFL (accrued liability FFL)	\$785,173,625
RPA'94 override (90% current liability FFL)	1,694,161,885
FFL credit	0

## EXHIBIT 9 - FUNDING STANDARD ACCOUNT (CONTINUED)

### Schedule of FSA Bases (Charges) (Schedule MB, Line 9c)

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Combined Base	01/01/2012	\$114,042,944	4.82	483,087,221
Plan Amendment	01/01/2012	71,720	11	\$569,684
Experience Loss	01/01/2012	3,929,674	11	31,213,909
Experience Loss	01/01/2013	4,468,372	12	37,561,945
Change in Assumptions	01/01/2014	452,893	13	4,002,641
<b>Total</b>		<b>\$122,965,603</b>		<b>\$556,435,400</b>

## EXHIBIT 9 - FUNDING STANDARD ACCOUNT (CONTINUED)

### Schedule of FSA Bases (Credits) (Schedule MB, Line 9h)

Type of Base	Date Established	Amortization Amount	Years Remaining	Outstanding Balance
Plan Amendment	07/01/2012	\$2,549,656	11.5	\$20,852,886
Plan Amendment	01/01/2013	4,388	12	36,890
Plan Amendment	07/01/2013	1,234,444	12.5	10,648,107
Plan Amendment	01/01/2014	810,548	13	7,163,569
Experience Gain	01/01/2014	11,003,792	13	97,250,749
Experience Gain	01/01/2015	4,340,989	14	40,112,889
Experience Loss	01/01/2016	1,587,746	15	15,267,516
Change in Assumptions	01/01/2016	5,473,446	15	52,631,817
Change in Funding Method	01/01/2016	3,285,438	10	24,465,029
Change in Asset Method	01/01/2016	963,475	10	7,174,518
<b>Total</b>		<b>\$31,253,922</b>		<b>\$275,603,970</b>

## Section 5: General Background

A summary of major developments with the background and position of the Pension Plan is provided in this section.

### CHANGES IN BENEFIT AMOUNTS AND AVERAGE CONTRIBUTION RATE SINCE JANUARY 1, 1976

Effective Date		Average Monthly Credited Contribution Rate	Monthly Pension Amount		Improvement to Existing Retirees
Year	Month		Per Year of Past Service	Future Service (per \$100 of Contributions)	
1976	January		\$ 5.00	\$2.75	
1980	January	\$ 87.58	5.50	3.03	10%
1981	November	103.49			(1)
1984	September	126.33	6.05	3.33	10%
1986	January	139.13	6.96	3.83	15%
1989	January	153.00	7.27	4.00	4.5%
1990	January	163.60	7.71	4.24	6%
1991	December	180.00			(1)
1992	January	183.00		\$4.45/\$4.24 <sup>(2)</sup>	4.25%
1993	January	187.00		\$4.50/\$4.24 <sup>(3)</sup>	1%
1994	January	191.25		\$4.50/\$4.24 <sup>(4)</sup>	4% <sup>(1)</sup>
1995	January	200.67			
1996	January	220.37		\$4.50/\$4.24 <sup>(5)</sup>	
1997	January	195.75		\$4.73/\$4.24 <sup>(5)</sup>	2% <sup>(1)</sup>
1998	January	205.64		\$4.90/\$4.73 <sup>(4)</sup> /\$4.24 <sup>(5)</sup>	1% <sup>(1)</sup>
1999	January	208.50	10.00	\$5.00/\$4.24 <sup>(5)</sup>	2% <sup>(1)</sup>

**CHANGES IN BENEFIT AMOUNTS AND AVERAGE CONTRIBUTION RATE SINCE JANUARY 1, 1976  
(CONTINUED)**

Effective Date		Average Monthly Credited Contribution Rate	Monthly Pension Amount		Improvement to Existing Retirees
Year	Month		Per Year of Past Service	Future Service (per \$100 of Contributions)	
2000	January	222.52			
2001	January	235.22			
2002	January	324.40			
2003	January	352.56			
2003	July			\$5.00/\$3.00 <sup>(6)</sup>	
2004	January	365.78			
2005	January	390.04		\$0.50/\$1.00/\$2.00 <sup>(7)</sup>	
2006	January	393.84			
2007	January	404.09			
2008	January	395.33			
2008	July			\$1.00 <sup>(8)</sup>	
2009	January	381.89			
2010	January	394.93			
2011	January	393.62			
2012	January	399.53			
2013	January	405.25			
2014	January	398.95			
2015	January	398.43			
2016	January	399.29			

<sup>(1)</sup> Additional, one-time only, pension payment was granted.

<sup>(2)</sup> The lower factor applies to service after January 1, 1992.

<sup>(3)</sup> The lower factor applies to service after January 1, 1994.

<sup>(4)</sup> The lower factor applies to service after January 1, 2000.

<sup>(5)</sup> The lower factor applies to service after January 1, 2005.

<sup>(6)</sup> The lower factor applies to service after July 1, 2003.

<sup>(7)</sup> The first factor applies to the first \$250 of monthly contributions, the second factor applies to the second \$250 of monthly contributions, and the last factor applies to monthly contributions in excess of \$500. All three factors apply to service after January 1, 2005.

<sup>(8)</sup> This factor applies to service after July 1, 2008.

## OTHER DEVELOPMENTS

Date	Event
September 1, 1955:	Board of Trustees executed Trust Agreement. Pension Plan was adopted.
July 12, 1956:	Favorable determination letter from the Internal Revenue Service was received.
January 1, 1976:	Plan revised to satisfy ERISA. Funding Standard Account was established.
January 1, 1985:	Early Retirement reduction factor was lowered to 1/3 of 1% per month.
January 1, 1986:	Plan amended to satisfy REA. Partial vested-rights adopted for participants with at least 5 years of service. Early Retirement reduction was dropped for participants retiring at age 62 or later and lowered to 1/4 of 1% per month for ages between 55 and 62. Eligibility requirements for Early Retirement and Disability pensions were lowered to 5 years of service. Pre-retirement death benefits are payable on the basis of vested percentage.
January 1, 1997:	Full vesting adopted for participants with at least 5 years of service.
October 1, 1997:	Plan amended to provide Unreduced Rule of 85 Retirement.
October 1, 1999:	Joint and Survivor factors were increased and now reflect a simplified formula
January 1, 2002:	One-time IAP rollover allowed for all non-retired participants. Future rollovers at retirement will no longer be allowed.
January 1, 2003:	Eligibility requirements for Disability Pension amended to require receipt of a Social Security Disability award.
January 15, 2008:	Board adopts the Segal interest rate method and the market value of assets for determining withdrawal liability.
March 4, 2008:	For collective bargaining agreements effective on or after March 4, 2008, the \$700 per month cap on contribution rates was eliminated.



## OTHER DEVELOPMENTS (CONTINUED)

Date	Event
March 28, 2008:	<p>Plan certified as being in “Critical” status under PPA ‘06. A Rehabilitation Plan was adopted that include supplemental off-benefit contributions beginning January 1, 2013 and the following benefit reductions:</p> <ol style="list-style-type: none"> <li>1. Early retirement and joint and survivor adjustment factors will be based on the plan’s actuarial equivalence basis.</li> <li>2. The “Rule of 85” unreduced early retirement benefit will no longer be available.</li> <li>3. The Plan’s disability benefit will no longer be available to new applicants.</li> <li>4. The 36-payment pre-retirement death benefit is eliminated.</li> <li>5. Payment forms, except for a life annuity or automatic joint and 50% survivor annuity, will no longer be available to new retirees.</li> </ol>
March 5, 2009:	Board elects under WRERA to freeze 2009 plan status under PPA’06 and to extend Rehabilitation Period by three years.
February 1, 2011:	The commencement of the Vested Benefit (for inactive vested participants) prior to Normal Retirement Age was eliminated.
March 8, 2011:	<p>Board adopts resolution to forestall plan insolvency under the Rehabilitation Plan.</p> <p>Board adopts simplified method under PBGC Technical Update 10-3 for determining withdrawal liability.</p>
March 8, 2012:	Board elects to reduce annual supplemental off-benefit contribution under Rehabilitation Plan Default Schedule from 12.5% to 5.0%.
March 31, 2015:	Plan certified as being in “Critical and Declining” under PPA’06 and MPRA.
September 3, 2015:	Date of most recent favorable determination letter from the IRS.

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