Arch Capital Group Ltd.
(including Arch Reinsurance Ltd.)
2018 Financial Condition Report

May 2019

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Executive Summary

Arch Capital Group Ltd. ("Arch", "ACGL", or the "Group"), a Bermuda public limited liability company, provides insurance, reinsurance and mortgage insurance on a worldwide basis through its wholly owned subsidiaries. While we are positioned to provide a full range of property, casualty and mortgage insurance and reinsurance lines, we focus on writing specialty lines of insurance and reinsurance. Arch Reinsurance Ltd. ("ARL") is the flagship, Bermuda-based reinsurance company of ACGL licensed by the Bermuda Monetary Authority ("BMA").

For 2018, ACGL wrote $5.35 billion of net premiums and reported net income available to Arch common shareholders of $713.6 million. This compares to 2017 net premiums of $4.96 billion and net income available to common shareholders of $566.5 million[1]. Book value per share was $21.52 at December 31, 2018, compared to $20.30 per share at December 31, 2017.

ACGL's net income during 2018 was negatively affected by natural catastrophe events during the second half of the year including Hurricanes Florence and Michael and the 2018 California wildfires. Despite these events, ACGL was able to deliver strong, diversified income and substantial growth in book value during 2018.

François Morin was promoted to Executive Vice President and Chief Financial Officer of ACGL in May 2018. He joined the Group in 2011 and previously served as ACGL Senior Vice President, Chief Risk Officer and Chief Actuary. Janice Englesbe joined ACGL as Senior Vice President, Chief Risk Officer in February 2019, succeeding François.

David Gansberg was promoted to Chief Executive Officer, Global Mortgage Group in March 2019. David joined the Group in 2001 and most recently served as President and Chief Executive Officer of Arch Mortgage Insurance Company.

ACGL's and ARL's governance structure, risk profile, and approach to capital management remain largely unchanged since the prior report.

ACGL carries $14.0 billion of statutory economic capital and surplus as of December 31, 2018. Both ACGL and ARL maintain a strong capital base, enabling both to comfortably meet the BMA's solvency requirements.

[1] The results in this paragraph are presented on a consolidated basis including contributions from the 'Other' segment, or Watford Re Ltd. Results presented elsewhere in the report are on a 'Core' ACGL basis, or excluding the 'Other' segment.

Section 1 - Business and Performance

1.1 Name of the Insurer

Arch Capital Group Ltd.
Waterloo House, Ground Floor
100 Pitts Bay Road
Pembroke HM 08 Bermuda

Arch Reinsurance Ltd.
Waterloo House, 1st Floor
100 Pitts Bay Road
Pembroke HM 08 Bermuda

1.2 Insurance Supervisor and Group Supervisor

Bermuda Monetary Authority
BMA House
43 Victoria Street
Hamilton HM 12 Bermuda

1.3 Approved Auditor

PricewaterhouseCoopers LLP
300 Madison Avenue
New York, New York 10017-6204
United States of America

1.4 Description of the Ownership Details including Proportion of Ownership Interest

ACGL's common shares are listed and traded on The NASDAQ Stock Market LLC in the U.S.

The following table sets forth information available to us as of March 8, 2019 with respect to the ownership of our voting shares by (1) each person known to us to be the beneficial owner of more than 5% of any class of our outstanding voting shares, (2) each director and named executive officer of ACGL and (3) all of the directors and executive officers of ACGL as a group. Except as otherwise indicated, each person named below has sole investment and voting power with respect to the securities shown.

Name and Address of Beneficial Owner	Common Shares (A) Number of Common Shares Beneficially Owned (1)	(B) Rule 13d-3 Percentage Ownership (1)
Artisan Partners Holdings LP (2) 875 East Wisconsin Avenue, Suite 800 Milwaukee, Wisconsin 53202	52,664,200	13.1%
The Vanguard Group (3) 100 Vanguard Blvd. Malvern, Pennsylvania 19355	35,009,622	8.7%
Cascade Investment, L.L.C. (4) 2365 Carillon Point Kirkland, Washington 98033	34,533,297	8.6%
BlackRock Inc. (5) 55 East 52nd Street New York, New York 10022	27,775,928	6.9%
Baron Capital Group, Inc. (6) 767 Fifth Avenue New York, New York 10153	23,212,503	5.8%
Constantine Iordanou (7)	7,282,254	1.8%
Marc Grandisson (8)	2,834,093	*
John L. Bunce, Jr. (9)	2,072,376	*
Eric W. Doppstadt (10)	56,022	*
Laurie S. Goodman (11)	8,310	*
Yiorgos Lillikas (12)	51,469	*
Louis J. Paglia (13)	29,883	*
John M. Pasquesi (14)	5,178,924	1.3%
Brian S. Posner (15)	85,127	*
Eugene S. Sunshine (16)	15,972	*
John D. Vollaro (17)	511,818	*
François Morin (18)	200,810	*
Nicolas Papadopoulo (19)	777,062	*
Maamoun Rajeh (20)	637,717	*
Andrew T. Rippert (21)	219,390	*
All directors and executive officers (18 persons) (22)	21,611,932	5.2%

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* Denotes beneficial ownership of less than 1%

For Footnotes (1) through (22) refer to the Proxy

Additional information regarding share ownership, including notes associated with the above table and preferred share ownership information, is available in the *Security Ownership of Certain Beneficial Owners and Management* section of ACGL's most recent Definitive Proxy Statement ("Proxy") Pursuant to Section 14(a) of the Securities

Exchange Act of 1934 filed with the United States Securities and Exchange Commission ("SEC"), which can be found in the *Investors* section of ACGL's website (http://www.archcapgroup.com/) or by clicking this direct link.

1.5 Group Structure

We have included ACGL's organizational structure chart as Appendix 1. We note that, except where noted, ACGL is the ultimate parent owning 100% of all subsidiary companies depicted in the chart, including ARL.

ARL is a direct subsidiary of ACGL. With the exception of certain services, holding and investment companies, ARL is the direct or indirect parent of all other ACGL companies, including all (re)insurance operations. ARL filed its statutory financial return for the reporting period on a consolidated basis.

ARL has been exempted from submitting a separate Financial Condition Report by the BMA. As a result, certain sections of this report include ARL-specific figures and discussion. Where such ARL-specific information is not included, ARL's financial information and processes are appropriately represented by the ACGL information included.

1.6 Insurance Business Written

The following tables set forth summary information regarding net premiums written, by segment and geographical region. We classify our businesses into three underwriting segments — insurance, reinsurance and mortgage — and two other operating segments — 'other' and corporate (non-underwriting).

Additional information regarding insurance business written, including descriptions of each segment and further details associated with the tables below, is available in the *Business—Operations* section of ACGL's most recent Annual Report for the year ended December 31, 2018 on Form 10-K filed with the SEC (the "10-K") , which can be found in the *Investors* section of ACGL's website (http://www.archcapgroup.com/) or by clicking this direct link.

1.6.1 Insurance Segment – Net Premiums

	Year Ended December 31,		
	2018	2017	2016
Net premiums earned			
Professional lines	$ 458,425	$ 444,137	$ 431,391
Programs	389,186	364,639	357,715
Construction and national accounts	322,440	324,517	322,072
Travel, accident and health	297,147	257,358	219,169
Property, energy, marine and aviation	205,069	173,779	188,938
Excess and surplus casualty	172,424	195,154	219,046
Lenders products	94,248	97,043	98,517
Other	266,722	256,391	237,056
Total	$ 2,205,661	$ 2,113,018	$ 2,073,904
Net premiums written by underwriting location			
United States	$ 1,736,651	$ 1,715,467	$ 1,690,208
Europe	401,974	344,836	327,034
Other	73,500	62,137	55,039
Total	$ 2,212,125	$ 2,122,440	$ 2,072,281

1.6.2 Reinsurance Segment – Net Premiums

	Year Ended December 31,		
	2018	2017	2016
Net premiums earned			
Other specialty	$ 474,568	$ 408,566	$ 329,994
Casualty	347,034	341,122	300,160
Property excluding property catastrophe	287,788	255,453	282,018
Property catastrophe	75,249	73,300	73,803
Marine and aviation	39,238	36,214	52,579
Other	37,339	27,966	17,678
Total	$ 1,261,216	$ 1,142,621	$ 1,056,232
Net premiums written by underwriting location			
United States	$ 413,550	$ 399,379	$ 432,683
Bermuda	487,523	350,681	277,625
Europe and other	471,499	424,414	343,548
Total	$ 1,372,572	$ 1,174,474	$ 1,053,856

1.6.3 Mortgage Segment – Net Premiums

	Year Ended December 31,		
	2018	2017	2016
Net premiums earned by underwriting location			
United States	$ 1,009,765	$ 901,858	$ 155,929
Other	176,471	155,308	130,787
Total	$ 1,186,236	$ 1,057,166	$ 286,716
Net premiums written by underwriting location			
United States	$ 948,323	$ 903,329	$ 186,826
Other	209,552	208,013	204,640
Total	$ 1,157,875	$ 1,111,342	$ 391,466

We note that ACGL's acquisition of United Guaranty Corporation (UGC) on December 31, 2016 increased Mortgage Segment premiums substantially for subsequent years.

1.7 Performance of Investments, Material Income and Expenses

1.7.1 Investments

The following table summarizes our invested assets.

Investable assets (1):		Estimated Fair Value	% of Total
December 31, 2018			
Fixed maturities (2)	$	14,881,902	76.1
Short-term investments (2)		995,926	5.1
Cash		583,027	3.0
Equity securities (2)		368,843	1.9
Other investments (2)		1,261,525	6.4
Investments accounted for using the equity method		1,493,791	7.6
Securities transactions entered into but not settled at the balance sheet date		(18,153)	(0.1)
Total investable assets held by Arch	$	19,566,861	100.0
Average effective duration (in years)		3.38	
Average S&P/Moody's credit ratings (3)		AA/Aa2	
Embedded book yield (4)		2.89 %	
December 31, 2017			
Fixed maturities (2)	$	14,798,213	75.1
Short-term investments (2)		1,509,713	7.7
Cash		551,696	2.8
Equity securities (2)		576,040	2.9
Other investments (2)		1,476,960	7.5
Investments accounted for using the equity method		1,041,322	5.3
Securities transactions entered into but not settled at the balance sheet date		(237,523)	(1.2)
Total investable assets held by Arch	$	19,716,421	100.0
Average effective duration (in years)		2.83	
Average S&P/Moody's credit ratings (3)		AA-/Aa2	
Embedded book yield (4)		2.32 %	

(1) In securities lending transactions, we receive collateral in excess of the fair value of the securities pledged. For purposes of this table, we have excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value.

(2) Includes investments carried as available for sale, at fair value and at fair value under the fair value option.

(3) Average credit ratings on our investment portfolio on securities with ratings by Standard & Poor's Rating Services ("S&P") and Moody's Investors Service ("Moody's").

(4) Before investment expenses.

The following table summarizes the pre-tax total return (before investment expenses) of investment managed by Arch compared to the benchmark return (both based in U.S. Dollars) against which we measured our portfolio during the periods.

	Arch Portfolio (1)	Benchmark Return
Pre-tax total return (before investment expenses):		
Year Ended December 31, 2018	0.33 %	(0.60) %
Year Ended December 31, 2017	5.87 %	4.74 %
Year Ended December 31, 2016	2.07 %	2.13 %

(1) Our investment expenses were approximately 0.36%, 0.30% and 0.34%, respectively, of average invested assets in 2018, 2017 and 2016.

The components of net investment income were derived from the following sources:

	Year Ended December 31, 2018	2017	2016
Fixed maturities	$ 403,449	$ 336,894	$ 242,310
Equity securities	12,650	12,703	13,823
Short-term investments	17,802	9,343	3,619
Other (1)	70,946	79,789	66,300
Gross investment income	504,847	438,729	326,052
Investment expenses (2)	(66,889)	(56,657)	(48,859)
Net investment income	$ 437,958	$ 382,072	$ 277,193

(1) Amounts include dividends and other distributions on investment funds, term loan investments, funds held balances, cash balances and other.
(2) Investment expenses were approximately 0.36% of average invested assets for 2018, compared to 0.30% for 2017 and 0.34% for 2016.

Additional information regarding our investments, including further details associated with the above tables, is available in the *Business—Our Company— Investments* section of the 10-K.

1.7.2 Income and Expenses

The following tables summarize the Group's underwriting income or loss by segment, together with a reconciliation of underwriting income or loss to net income available to Arch common shareholders.

	Year Ended December 31, 2018					
	Insurance	Reinsurance	Mortgage	Sub-Total	Other	Total
Gross premiums written (1)	$ 3,262,332	$ 1,912,522	$ 1,360,708	$ 6,534,423	$ 735,015	$ 6,961,004
Premiums ceded	(1,050,207)	(539,950)	(202,833)	(1,791,851)	(130,840)	(1,614,257)
Net premiums written	2,212,125	1,372,572	1,157,875	4,742,572	604,175	5,346,747
Change in unearned premiums	(6,464)	(111,356)	28,361	(89,459)	(25,313)	(114,772)
Net premiums earned	2,205,661	1,261,216	1,186,236	4,653,113	578,862	5,231,975
Other underwriting income (loss)	—	(682)	13,033	12,351	2,722	15,073
Losses and loss adjustment expenses	(1,520,680)	(846,882)	(81,289)	(2,448,851)	(441,255)	(2,890,106)
Acquisition expenses	(349,702)	(211,280)	(118,595)	(679,577)	(125,558)	(805,135)
Other operating expenses	(364,138)	(133,350)	(142,432)	(639,920)	(37,889)	(677,809)
Underwriting income (loss)	$ (28,859)	$ 69,022	$ 856,953	897,116	(23,118)	873,998
Net investment income				437,958	125,675	563,633
Net realized gains (losses)				(284,429)	(120,915)	(405,344)
Net impairment losses recognized in earnings				(2,829)	—	(2,829)
Equity in net income (loss) of investments accounted for using the equity method				45,641	—	45,641
Other income (loss)				2,419	—	2,419
Corporate expenses				(58,608)	—	(58,608)
Transaction costs and other				(11,386)	(9,000)	(20,386)
Amortization of intangible assets				(105,670)	—	(105,670)
Interest expense				(101,019)	(19,465)	(120,484)
Net foreign exchange gains (losses)				58,711	10,691	69,402
Income (loss) before income taxes				877,904	(36,132)	841,772
Income tax expense				(113,924)	(27)	(113,951)
Net income (loss)				763,980	(36,159)	727,821
Dividends attributable to redeemable noncontrolling interests				—	(18,357)	(18,357)
Amounts attributable to nonredeemable noncontrolling interests				—	48,507	48,507
Net income (loss) available to Arch				763,980	(6,009)	757,971
Preferred dividends				(41,645)	—	(41,645)
Loss on redemption of preferred shares				(2,710)	—	(2,710)
Net income (loss) available to Arch common shareholders				$ 719,625	$ (6,009)	$ 713,616
Underwriting Ratios						
Loss ratio	68.9 %	67.1 %	6.9 %	52.6 %	76.2 %	55.2 %
Acquisition expense ratio	15.9 %	16.8 %	10.0 %	14.6 %	21.7 %	15.4 %
Other operating expense ratio	16.5 %	10.6 %	12.0 %	13.8 %	6.5 %	13.0 %
Combined ratio	101.3 %	94.5 %	28.9 %	81.0 %	104.4 %	83.6 %
Goodwill and intangible assets	$ 114,012	$ —	$ 513,258	$ 627,270	$ 7,650	$ 634,920
Total investable assets				$ 19,566,861	$ 2,757,663	$ 22,324,524
Total assets				28,845,473	3,372,856	32,218,329
Total liabilities				19,518,395	2,262,255	21,780,650

(1) Certain amounts included in the gross premiums written of each segment are related to intersegment transactions. Accordingly, the sum of gross premiums written for each segment does not agree to the total gross premiums written as shown in the table above due to the elimination of intersegment transactions in the total.

	Year Ended December 31, 2017					
	Insurance	Reinsurance	Mortgage	Sub-Total	Other	Total
Gross premiums written (1)	$ 3,081,086	$ 1,640,399	$ 1,368,138	$ 6,088,254	$ 600,304	$ 6,368,425
Premiums ceded	(958,646)	(465,925)	(256,796)	(1,679,998)	(47,187)	(1,407,052)
Net premiums written	2,122,440	1,174,474	1,111,342	4,408,256	553,117	4,961,373
Change in unearned premiums	(9,422)	(31,853)	(54,176)	(95,451)	(21,390)	(116,841)
Net premiums earned	2,113,018	1,142,621	1,057,166	4,312,805	531,727	4,844,532
Other underwriting income	—	11,336	15,737	27,073	3,180	30,253
Losses and loss adjustment expenses	(1,622,444)	(773,923)	(134,677)	(2,531,044)	(436,402)	(2,967,446)
Acquisition expenses, net	(323,639)	(221,250)	(100,598)	(645,487)	(129,971)	(775,458)
Other operating expenses	(359,524)	(146,663)	(146,336)	(652,523)	(31,928)	(684,451)
Underwriting income (loss)	$ (192,589)	$ 12,121	$ 691,292	510,824	(63,394)	447,430
Net investment income				382,072	88,800	470,872
Net realized gains (losses)				148,798	343	149,141
Net impairment losses recognized in earnings				(7,138)	—	(7,138)
Equity in net income (loss) of investments accounted for using the equity method				142,286	—	142,286
Other income (loss)				(2,571)	—	(2,571)
Corporate expenses				(61,602)	—	(61,602)
Transaction costs and other				(22,150)	—	(22,150)
Amortization of intangible assets				(125,778)	—	(125,778)
Interest expense				(103,592)	(13,839)	(117,431)
Net foreign exchange gains (losses)				(113,345)	(2,437)	(115,782)
Income before income taxes				747,804	9,473	757,277
Income tax (expense) benefit				(127,547)	(21)	(127,568)
Net income				620,257	9,452	629,709
Dividends attributable to redeemable noncontrolling interests				—	(18,344)	(18,344)
Amounts attributable to nonredeemable noncontrolling interests				—	7,913	7,913
Net income (loss) available to Arch				620,257	(979)	619,278
Preferred dividends				(46,041)	—	(46,041)
Loss on redemption of preferred shares				(6,735)	—	(6,735)
Net income (loss) available to Arch common shareholders				$ 567,481	$ (979)	$ 566,502
Underwriting Ratios						
Loss ratio	76.8 %	67.7 %	12.7 %	58.7 %	82.1 %	61.3 %
Acquisition expense ratio	15.3 %	19.4 %	9.5 %	15.0 %	24.4 %	16.0 %
Other operating expense ratio	17.0 %	12.8 %	13.8 %	15.1 %	6.0 %	14.1 %
Combined ratio	109.1 %	99.9 %	36.0 %	88.8 %	112.5 %	91.4 %
Goodwill and intangible assets	$ 22,310	$ 211	$ 622,440	$ 644,961	$ 7,650	$ 652,611
Total investable assets				$ 19,716,421	$ 2,440,067	$ 22,156,488
Total assets				29,037,004	3,014,654	32,051,658
Total liabilities				19,959,574	1,846,149	21,805,723

(1) Certain amounts included in the gross premiums written of each segment are related to intersegment transactions. Accordingly, the sum of gross premiums written for each segment does not agree to the total gross premiums written as shown in the table above due to the elimination of intersegment transactions in the total.

Additional information regarding our income and expenses, including further details associated with the above table, is available in the *Financial Statements and Supplementary Data* section of the 10-K.

1.8 Any Other Material Information

No other material information to report as of December 31, 2018.

Section 2 - Governance Structure

2.1 Board and Senior Executive

2.1.1 Structure, Roles and Responsibilities

The following individuals, with their roles responsibilities, are members of senior management of ACGL as of May 2019:

- Marc Grandisson – President and Chief Executive Officer, ACGL
- François Morin – Executive Vice President, Chief Financial Officer and Treasurer, ACGL
- Nicolas Papadopoulo – Chairman and Chief Executive Officer, Arch Worldwide Insurance Group and Chief Underwriting Officer for the Property & Casualty Group
- Maamoun Rajeh – Chief Executive Officer, Arch Worldwide Reinsurance Group
- David Gansberg – Chief Executive Officer, Arch Worldwide Mortgage Group
- Dennis R. Brand – Chairman, Worldwide Services at Arch Capital Services Inc.
- W. Preston Hutchings – President, Arch Investment Management Ltd. and Senior Vice President and Chief Investment Officer, ACGL
- Louis T. Petrillo – President and General Counsel, Arch Capital Services Inc.
- Carl Sullo – Chief Human Resources Officer, Arch Capital Services Inc.

Details about the ACGL Board of Directors ("Board") independence and composition, the Board's role in risk oversight, and further detail regarding the Board (including its committees) and senior executive's roles and responsibilities are included in the Board of Directors and Committees of the Board of Directors sections of the Proxy.

ARL's Board of Directors and senior executive leadership structure, roles and responsibilities are summarized below.

- Maamoun Rajeh – Chairman
- Jerome Halgan – Chief Executive Officer
- Matt Dragonetti – President, Head of Property
- Pierre Jal – Chief Underwriting Officer
- Roderick Romeo –Chief Financial Officer
- Lester Pun – Chief Actuary
- Manuel Lonfat – Chief Risk Officer
- Tim Peckett – General Counsel

2.1.2 Remuneration Policy and Practices

Detail regarding ACGL's remuneration policies and practices are included in the *Compensation Discussion and Analysis* section of the Proxy.

ARL's remuneration policies and practices mirror those of ACGL.

2.1.3 Supplementary Pension / Early Retirement Schemes

The Group maintains United States tax-qualified and non-qualified defined contribution plans but does not maintain any defined benefit retirement or pension plans. Further information with respect to our defined contribution plans that provide for the deferral of compensation on a basis that is not tax-qualified can be found in the *Non-Qualified Deferred Compensation* section of the Proxy. In addition, ACGL and certain of its Bermuda subsidiaries, including ARL, are responsible for the management of eight defined contribution plans ("Plans") for their Bermuda-based employees. Four of the Plans are for Bermuda citizens, and the other four Plans are for non-Bermuda citizens.

Information regarding senior executive remuneration under termination scenarios can be found in the *Termination Scenarios–Potential Payments* section of the Proxy.

2.1.4 Material Transactions

Information regarding transactions with related parties can be found in the *Financial Statements and Supplementary Data–Transactions with Related Parties* section of the 10-K and the *Certain Relationships and Related Transactions* section of the Proxy.

We are aware of no other material insurance or other business transactions between the Group and shareholder controllers, persons who exercise significant influence, the board or senior executive during the reporting period. Likewise, we are aware of no such transactions between ARL and shareholder controllers, persons who exercise significant influence, the board or senior executive during the reporting period.

2.2 Fitness and Propriety Requirements

2.2.1 Fit and Proper Process

The Nominating Committee, in its capacity as a committee of the Board, assists the Board by identifying individuals qualified to become Board members and recommends to the Board the director nominees for the next annual meeting of shareholders. The Nominating Committee is authorized to engage search firms, independent counsel and other advisers as it determines to be necessary or appropriate to assess the "fit and proper" requirements of directors' qualifications.

Further details regarding the fit and proper process in assessing the board and senior executive are contained in the *Item 1—Election of Directors* section of the Proxy.

ARL follows fit and proper processes required by the BMA.

2.2.2 Professional Qualifications, Skills and Expertise

The professional qualifications, skills, and expertise of the ACGL board members qualifying them to carry out their functions are detailed in the *Proposal 1—Election of Directors* section of the Proxy.

Mr. Rajeh is a member of ACGL senior management and his professional qualifications, skills, and expertise are therefore listed in the Proxy. The professional qualifications, skills, and expertise of ARL senior executives qualifying them to carry out their functions are detailed below.

Jerome Halgan was appointed Chief Executive Officer of ARL in January 2018. Mr. Halgan originally joined Arch in 2009 as Senior Underwriter with ARL in Bermuda. He was promoted to Chief Underwriting Officer in June 2012. He then took on the role of President of Arch Reinsurance Company in Morristown, NJ in August 2014, a position he held until January 2016, when he was named Chairman, President and Chief Executive Officer of Arch Reinsurance Company until assuming his current role. From 2001 to 2009, Mr. Halgan worked at the Berkshire

Hathaway Reinsurance Group with his last position Vice President with responsibilities in both insurance and reinsurance underwriting across a wide array of lines of business. From 1998 to 2001, Mr. Halgan held various positions with Sorema N.A. Reinsurance Group, with responsibilities within property, underwriting and business analysis. Mr. Halgan holds an MBA from the Stern School of Business and an engineering degree from the École Supérieure d'Électricité in France.

Matt Dragonetti is the President and Head of Property for ARL, a position he has held since November 2017. Mr. Dragonetti joined ARL in November 2001 as a Senior Underwriter for US Treaty Property, and was appointed Head of US Property in 2005 and Head of Worldwide Property in 2012. Before joining ARL, Mr. Dragonetti was Vice President of Odyssey Re and prior to that, he was a Vice President of Property Treaty for Terra Nova (Bermuda) from 1998-2000. He started his reinsurance career at F&G Re as an Assistant Vice President international property from 1995 to 1998. He has a B.S in Economics from Pennsylvania State University and an MBA from Northeastern University.

Pierre Jal was appointed Global Chief Underwriting Officer for ARL in November 2017. Mr. Jal joined Arch Reinsurance Europe Underwriting dac (Arch Re Europe) as an underwriter/actuary in July 2007. He was appointed to senior international casualty/specialty underwriter in 2011. In 2012, Mr. Jal was appointed Chief Underwriting Officer P&C for Arch Re Europe. He was promoted to Chief Underwriting Officer in 2014. Prior to joining Arch, Mr. Jal held various underwriting and actuarial positions. From 2005 to 2007, he served as Underwriter/Head of Actuarial Department, of Scor Global P&C in Switzerland. From 2004 to 2005, he was a reinsurance underwriter at French Market at Alea in Switzerland. Prior to this, Mr. Jal was an actuarial consultant at GECALUX in Luxemburg from 2002 to 2004. He started his reinsurance career in 2001 as a reinsurance pricing actuary at Gerling Globale Re in France. Mr. Jal holds a Master's Degree in Actuarial Science and is a fully qualified member of the French Institute of Actuaries.

2.3 Risk Management and Solvency Self-Assessment

2.3.1 Risk Management Process and Procedures

The following narrative provides an overview of the Group's Risk Management Framework, which describes the Group's methodology for identifying, measuring, managing and reporting on the key risks affecting ACGL. It outlines ACGL's approach to risk identification and assessment and provides an overview of ACGL's risk appetite and tolerance for each of the following major risks:

- Underwriting (insurance) risk including pricing, reserving and catastrophe;
- Investment / Market risk;
- Credit risk;
- Operational, including governance, regulatory, investor relations (reputational), rating agency and outsourcing risks;
- Group risk; and
- Strategic risk.

The framework includes details of ACGL's:

- Risk philosophy and policies to address the material risks confronting the Group; and
- Compliance, approach and procedures to control and or mitigate these risks.

The actions and policies implemented to meet ACGL's business management and regulatory obligations form the core of this framework. ACGL has adopted a holistic approach to risk management by analyzing risk from both a top-down and bottom-up perspective.

Risk Identification and Assessment

The Finance, Investment and Risk Committee ("FI&RC"), Audit Committee and Underwriting Oversight Committee ("UOC") of the ACGL Board oversee the top-down and bottom-up review of the Group's risks. Given the nature and scale of the Group, these committees consider insurance, investments and operational risks within the scope of the assessment. The ACGL Chief Risk Officer ("CRO") assists these committees in the identification and assessment of all key risks.

Risk Monitoring and Control

The CRO is responsible for maintaining the ACGL Risk Register and continually reviewing and challenging risk assessments, including the impact of emerging risks and significant business developments. ACGL Board approval is required for any new high level risks or change in inherent / residual designations.

ACGL's Risk Management Framework requires risk owners to monitor key risks on a continuous basis. The highest residual risks are actively managed by the FI&RC. The remaining risks are managed and monitored at a process level by the risk owners and/or CRO.

Risk owners have ultimate responsibility for the day-to-day management of each designated risk, reporting to the CRO on the satisfactory management and control of the risk and timely escalation of significant issues that may arise in relation to that risk.

The CRO is responsible for overseeing the monitoring of all risks across the business and for communicating to the relevant risk owners if he becomes aware of issues, or potential and actual breaches of risk appetite, relevant to the assigned risks.

A key element of these monitoring activities is the evaluation of the Group's position relative to risk tolerances and limits approved by the Board.

Risk Reporting

Quarterly, the CRO compiles the results of the key risk review process into a report to the FI&RC for review and discussion at their quarterly meeting. The report includes:

- An overview of selected key risks (e.g., Underwriting, Market, Credit);
- Changes in the rating of high level risks in the ACGL Risk Register;
- A risk dashboard that depicts the status of risk limit and tolerance metrics;
- Summary of largest exposures and concentration risks; and
- Group-wide reinsurance arrangements, including outstanding and uncollectible recoveries.

If necessary, risk management matters reviewed at the FI&RC meeting are presented for discussion by the Board. The CRO is responsible for immediately escalating any significant risk matters to ACGL executive management, the FI&RC and/or the Board for approval of the required remediation.

As part of our corporate governance, the Board and certain of its Committees hold regular Executive Sessions with members of our management team. These sessions are intended to ensure an open and frank dialogue exists about various forms of risk across the organization.

2.3.2 Implementation and Integration

ACGL believes an integrated approach to developing, measuring and reporting its Own Risk and Solvency Assessment ("ORSA") is an integral part of the Group's Risk Management Framework. The ORSA process provides the link between ACGL's risk profile, its Board-approved risk appetite including approved risk tolerances and limits, its business strategy and its overall solvency requirements.

The ORSA is the entirety of the processes and procedures employed to identify, assess, monitor, manage, and report the short- and long-term risks ACGL faces – or may face – and to determine the capital necessary to ensure that Group's overall solvency needs are met at all times. The ORSA also makes the link between actual reported results and the capital assessment.

The ORSA process and reporting are integral parts of ACGL's business strategy, tailored specifically to fit into ACGL's organizational structure and risk management system with the appropriate techniques in place to assess its overall solvency needs, taking into consideration the nature, scale and complexity of the risks inherent in the business.

ACGL also takes the results of the ORSA into account for its system of governance, including long-term capital management, business planning and new product development. It also contributes to various strategic decision-making including how best to optimize capital management, establishing the most appropriate premium levels and deciding whether to retain or transfer risks.

The ORSA is the basis for risk reporting to the Board and its committees and acts as a mechanism to embed the Risk Management Framework within the Group's decision making processes and operations. The Board has delegated responsibility for supervision and oversight of the ORSA to the FI&RC. This oversight includes regular reviews of the ORSA process and output.

An ORSA Report is produced at least annually and the results of each assessment are reported to the Board. The Board actively participates in the ORSA process by steering how the assessment is performed and challenging its results. This assessment is also taken into account when formulating strategic decisions for the Group.

Where appropriate, an ARL-specific view is incorporated into ACGL's ORSA process and reporting. In addition, the ARL Risk Committee is responsible for the evaluation and monitoring of ARL's risk management policies, procedures and controls which facilitates the ongoing management of ARL's exposure to risks. A key element of these monitoring activities is the evaluation of ARL's position relative to risk tolerances and limits approved by the ARL Board.

2.3.3 Relationship Between the Solvency Self-Assessment, Solvency Needs, and Capital and Risk Management Systems

As an integrated part of the business strategy, ACGL's primary capital requirements are determined using various models, but the constraining capital requirements come from the Standard and Poor's ("S&P") Insurance Capital Adequacy Model. Capital requirements at various rating levels are compared to Total Adjusted Capital ("TAC"), as defined by S&P, to ensure adequate capital is held in the current and future periods considered in the business planning process. Minimum acceptable levels of TAC relative to capital requirements or certain ratings are outlined in ACGL's risk tolerances and limits, and approved by the Board.

Any material changes in the underlying risks, such as changes in business mix, reinsurance strategy and investment strategy, are modeled for potential impact upon ACGL's capital requirements. The result of this process is to ensure that all material risks feed into the capital requirements analysis, and in some cases also trigger further investigation through stress testing.

The results of solvency self-assessments are included in the quarterly reporting to the FI&RC. They are also incorporated into the ORSA report produced by the CRO, which is then reviewed by the FI&RC and the Board for approval.

2.3.4 Approval Process

ACGL records the actual performance of the overall capital assessment and the assessment of any deviations in its risk profile from the assumptions underlying the capital requirements analysis to a level of detail that enables a third party to evaluate the assessments performed.

The CRO prepares a quarterly report for the FI&RC covering risk management in general, including relevant ORSA topics, for discussion in the FI&RC meetings. The ACGL Risk Register is presented to the FI&RC on an annual basis for review, followed by Board approval. Any material changes in the risk management strategy, policies, processes, procedures and/or capital requirements analysis are presented to the Board for approval.

The ORSA policy and the ORSA report are reviewed by the FI&RC and recommended to the Board for approval.

2.4 Internal Controls

2.4.1 Internal Control System

ACGL has adopted the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") 2013 framework as the criteria for evaluating the effectiveness of the Group's internal controls. The COSO 2013 framework includes the following components:

- Control Environment;
- Risk Assessment;
- Control Activities;
- Information and Communication; and
- Monitoring Activities.

The Group's assessment of its internal controls framework takes into consideration all five components of the COSO 2013 framework and includes an evaluation of the design and operating effectiveness of all five components.

The Control Environment and Risk Assessment components apply broadly across the Group while the Control Activity component is specific to processes and/or functions. The other COSO 2013 components, namely Information and Communication and Monitoring, function at the entity level as well as at the process level.

Separate evaluations of internal control are performed by management and internal audit.

ACGL's Sarbanes-Oxley ("SOX") Compliance Group's testing of internal controls over financial reporting ("ICFR") is a major element of the Group's monitoring activities. The focus of our testing is to provide auditable evidence regarding the design and operating effectiveness of ICFR. A major component of this process is the identification, tracking and disposition of internal control deficiencies that are assessed individually and in the aggregate. The results of our testing are continually communicated to stakeholders who include senior management, process/control owners and the Audit Committee.

2.4.2 Compliance Function

The Board has approved the establishment of a compliance and ethics program to ensure that ACGL promotes an organizational culture that encourages the highest standards of ethical business conduct and compliance with its Code of Business Conduct, its policy statements and any laws and regulations which govern its business activities (collectively referred to as the "Compliance Program"). The Compliance Program is intended to ensure that ACGL exercises appropriate due diligence to prevent conduct which is in violation of its Compliance Program thereby protecting ACGL's reputation and good name. Consistent with its desire to have uniform policies, practices and procedures to ensure that our business is conducted in an ethical manner, ACGL has directed that each of its majority-owned subsidiaries (together with ACGL, referred to as the "Companies") adopt a compliance program similar to that adopted by ACGL. In addition to being familiar with this Compliance Program, it is essential that employees are familiar, and in compliance, with any additional compliance programs and procedures adopted to meet the requirements of applicable local law and regulations which may not be covered by this Compliance Program.

The requirements of this Compliance Program apply to all employees, officers and directors of the Companies (herein referred to as "employees"). In addition, where appropriate, the Compliance Program also will apply to agents of the Companies.

Group Compliance Officers are appointed upon the agreement of the Presidents and/or Chief Executive Officers of the operating companies in each Group. The Group Compliance Officers report to their Group Presidents and to the Director of Compliance and may consult with such other personnel as deemed appropriate and necessary to ensure the proper functioning of the Compliance Program.

2.5 Internal Audit

The ACGL Internal Audit function ("Internal Audit") is an independent, objective assurance and consulting activity designed to add value and improve the Companies' operations. It helps management and the Audit Committee accomplish their objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes.

Internal Audit's scope encompasses, but is not limited to, the examination and evaluation of the adequacy and effectiveness of the Companies' governance, risk management and internal processes as well as the quality of management's performance in carrying out assigned responsibilities to achieve the Companies' stated goals and objectives.

Internal Audit reports to the Audit Committee as to whether:

- appropriate action has been taken on significant audit findings;

- audit activities have been directed toward highest exposures or risk and, secondarily, toward increasing efficiency, economy, and effectiveness of operations;
- internal, external and, when deemed appropriate, regulatory audits are coordinated, so as to avoid duplication;
- internal audit plans and resources are adequate;
- there is any unwarranted restriction on access by internal auditors to all Companies activities, records, property, and personnel; and
- the Companies are in compliance with law, rules and regulations applicable to auditing functions and standards, including those related to fraud and other illegal acts.

2.6 Actuarial Function

The Actuarial function is monitored by the ACGL Audit Committee and UOC. Actuaries within the ACGL entities are responsible for:

- Developing reserve estimates, including assessing the quality of underlying data;
- Assisting in the execution of the risk management framework;
- Assisting with the underwriting process, including those surrounding pricing and writing of underwriting contracts and risk transfer mechanisms (e.g., ceding reinsurance, derivative instruments, etc.);
- Supporting actuarial information technology development, including the development of applications and financial database management;
- Developing capital models and providing output from the models for use by Senior Executives, Board Committees and the Board; and
- Providing support of financial information to multiple stakeholders including regulatory bodies, rating agencies and the SEC.

The actuarial function comprises experienced, fully qualified, individuals with in-depth knowledge of actuarial and financial mathematics. The function is staffed appropriately given the nature, scale and complexity of the risks inherent in the integrated operations.

ACGL's Group Actuary oversees actuarial policies throughout the Group, as well as development of Group-wide actuarial techniques and standards. This individual provides an independent assessment of the Group's reserves to the Audit Committee each quarter.

2.7 Outsourcing

2.7.1 Outsourcing Policy

ACGL defines outsourcing as contracting out part or all of a business function to a third party. In this regard, ACGL may use the external service provider's processes and controls to perform the agreed upon services. However, ACGL will retain all decision making and ultimate responsibility over the business function and maintain the appropriate monitoring mechanisms to ensure adherence to a service level agreement.

All outsource providers are engaged under formal contracts that include fee and billing structures. Contracts must be reviewed by our Legal department and approved by ACGL executive management and/or the Board as appropriate.

Vendors who provide outsourced services across the Group (e.g., Accounting Services) are under supervision of Group personnel who communicate regularly with ACGL executive management to assist in identifying issues and monitoring performance.

No key functions have been outsourced at the ACGL level.

2.7.2 Intra-Group Outsourcing

This subsection is not applicable to ACGL as a group.

ARL does not outsource significant operations, with the following exceptions:

- Investment management services are performed by an ACGL subsidiary, Arch Investment Management Ltd.
- Internal Audit services are performed by the Internal Audit function of Arch Capital Services Inc., an ACGL subsidiary.

2.8 Any other material information

No other material information to report as of December 31, 2018.

Section 3 - Risk Profile

3.1 Material Risks

A discussion of material risks facing ACGL is available in the *Risk Factors* section of the 10-K, including detailed discussion of various risks in each of the following sub-sections:

- *Risks Relating to Our Industry*
- *Risks Relating to Our Company*
- *Risks Relating to Our Shares*
- *Risks Relating to Taxation*

3.2 Risk Mitigation

Much of the strategy to mitigate key risks is contained in the discussion referenced immediately above. In addition, management uses ceded reinsurance to further mitigate gross insurance risks. Related discussion is available in the *Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies, Estimates and Recent Accounting Pronouncements—Ceded Reinsurance* section of the 10-K.

3.3 Material Risk Concentrations

The Group's stated risk appetite and associated limits state that ACGL will write catastrophe-exposed business while limiting single probable maximum loss ("PML") or realistic disaster scenario ("RDS") occurrences at 1-in-250 year probability to less than 25% of tangible book value. ACGL is compliant with these statements as of the date of the report.

PMLs represent an estimate of loss for a single event for a given return period, and are typically related to natural catastrophe risk. Natural catastrophe risk is a source of significant aggregate exposure for the Group and is managed by setting risk appetite and limits, as discussed above for the Group and also at more granular levels within operating units. Natural catastrophe perils can impact geographic regions of varying size and can have economic repercussions beyond the geographic region directly impacted. ACGL monitors its natural catastrophe PMLs on a quarterly basis.

RDSs can emanate from various sources of risk, including but not limited to economic crises, mass tort events, and pandemic health events. ACGL has potential exposure to these and other potential PML/RDS events through its (re)insurance operations, including mortgage, and monitors them on a quarterly basis.

The main risk exposures areas, other than underwriting and catastrophe risk, by which the Group might be subject to concentration of risk would be investments and credit or counterparty risks. In order to minimize its subjectivity to investment concentration risk, the Group has designed its investment portfolio to diversify risks, including interest rate, credit, structure and equity risks. To ensure diversification and to avoid excessive aggregation of risks, the Group has placed limits on asset types, economic sector exposure, industry exposure and individual security exposure, and which are monitored on an ongoing basis.

The FI&RC of the Board is charged with the responsibility to monitor the Group's compliance with the policies, guidelines and risk limits governing its material risk concentrations to both the (re)insurance and investment portfolios.

3.4 Investments

Information regarding our investments, including a description of how assets are invested in accordance with the prudent person principle, is available in the *Business—Our Company— Investments* section of the 10-K.

3.5 Stress Testing and Sensitivity Analysis

Stress testing is an integral part of ACGL's risk management framework. The stress scenarios evaluated as part of ACGL's ORSA process provide insight into the financial implications of stress events the Group is exposed to. A well-developed set of stress scenarios are also considered an important part of each operating entity's ORSA activities. While universal consistency in specific stress scenarios among operating entities (or between entities and the Group) is not necessary, ACGL has adopted standards for stress testing, stating each stress scenario quantified should:

- Result in a stressed (i.e., less beneficial) financial position, as measured by the ratio of available to required capital;
- Constitute at least a 1:100 year event. Where risk appetites or other metrics are linked to a more remote event (e.g., 1:250) it may be prudent to use include such events with longer return periods;
- Wherever possible be based on modeled events. Where modeled events are not available, historical experience or well-reasoned judgmental amounts may be substituted; and
- Consider all potential sources of stress and the impact of the stress event(s) on all risk categories for the entity.

ACGL stress scenarios take different forms depending on the entity in question and the risks it is exposed to; however, stress scenarios employed around the Group typically fall into the following general categories:

- Reserve/Underwriting Risk Adverse Scenarios;
- Financial Market Events;
- Catastrophe/Man-Made/Other Large RDS;
- Credit (Counterparty);
- Growth; and
- Operational.

ACGL's latest stress testing results lead ACGL management to believe it has sufficient capital to withstand all reasonably foreseeable stress events.

Sensitivity analysis is also conducted as part of various ORSA and risk management activities around the Group, in order to test and maintain the robustness of the models employed and the parameters set within those models.

3.6 Any Other Material Information

No other material information to report as of December 31, 2018.

Section 4 - Solvency Valuation

4.1 Valuation Bases, Assumptions and Methods for Assets

ACGL generally values its assets under accounting principles generally accepted in the United States of America ("GAAP"), including the use of fair value measurement and other-than-temporary ("OTTI") impairments for certain assets. Related discussion is available in the *Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies, Estimates and Recent Accounting Pronouncements—Fair Value Measurements* and *Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies, Estimates and Recent Accounting Pronouncements—Other-Than-Temporary Impairments* sections of the 10-K.

A series of adjustments to the GAAP valuations of various assets in line with BMA statutory return and Economic Balance Sheet ("EBS") rules are undertaken, in order to comply with the BMA's "Guidance Note for Statutory Reporting Regime" for the reporting period's statutory filing.

Material adjustments undertaken to get from GAAP to the economic basis asset valuation required in the statutory EBS include:

- Deferred acquisition costs are excluded from the EBS
- Goodwill and intangible assets are excluded from the EBS
- Certain receivable amounts are reduced for the amounts already due, which for EBS purposes are included in the technical provision calculations described in the following section

4.2 Valuation Bases, Assumptions and Methods for Technical Provisions

The process of valuing ACGL's Insurance Technical Provisions ("TPs") begins with actuarial valuation of our GAAP basis reserves for loss and loss adjustment expenses ("Loss Reserves"). Cash flows associated with those Loss Reserves, along with unearned premium reserves and provisions for other components of economic basis TPs, are converted to an economic basis using the approach outlined below.

Discussion of ACGL's approach to setting GAAP basis loss reserves is available in the *Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies, Estimates and Recent Accounting Pronouncements—Reserves for Losses and Loss Adjustment Expenses* section of the 10-K.

4.2.1 Calculation Methodology

GAAP Loss Reserves and unearned premium reserves, along with certain receivable and payable balances, are converted into TPs for reporting on the EBS. The overarching principle for valuing TPs under the EBS is the current amount undertakings would have to pay if they were to transfer their (re)insurance obligations immediately to another undertaking.

The calculations for the TPs are based on the existing GAAP valuation. The same methodology is applied to each homogeneous risk group and follows the steps laid out below:

(i) Gross and net best estimates of liabilities are estimated separately for each underwriting year. Each underwriting year is then split into earned or unearned business. Relevant payment patterns are applied to these different blocks according to the respective state of their development. The output consists of gross and net outflows for claims payments, separately for claims provision and premium provision;

(ii) Premium receivables are derived from the analysis of debtor cashflows (i.e. looking at the not yet due debt collectibles). Estimates of not yet due debt collectables are used directly as cash inflows. The output consists of gross cash inflows of premium receivables for both claims provisions and premium provisions. It is worth noting that debt due but not received is excluded from the technical provisions and is instead included within insurance receivables on the balance sheet. In addition, the calculations also allow for future reinsurance costs which correspond to recoveries being made in respect of claims;

(iii) During steps i) and ii) above, a number of adjustments are made to allow for:
- The business contractually agreed before the balance sheet date, but incepting after the balance sheet date. This is referred to as Bound But Not Incepted ("BBNI") business; and
- Events Not In Data ("ENIDs").

(iv) Cash outflows for reinsurance premium payables/net premium receivables are based on gross cashflows to which net or ceded ratios are applied to both premiums and claims. These net/ceded ratios are based on the ratios derived in the GAAP reserving exercise;

(v) Different types of expenses are projected and future cashflows are derived from this analysis. The output consists of expense cash outflows separately for claims provision and premium provisions;

(vi) An allowance for cash inflows stemming from ceded reinsurance income is also made;

(vii) An adjustment is carried out to allow for reinsurance counterparty default. The output consists of cash outflows for reinsurance counterparty default;

(viii) The risk margin is calculated at a total level by running off the one-year Bermuda Solvency Capital Requirement ("BSCR") as regards insurance, counterparty and operational risk over future years and multiplying the cashflows by a cost of capital of 6% per annum; and

(ix) All cashflows are discounted and the sum of these discounted cashflows is calculated for each series. These sums are then added together to derive the net best estimate liabilities. The discount rates used are those prescribed by the BMA (without adjustment for the illiquidity of the reserve liabilities).

ACGL's net TPs as of December 31, 2018 and 2017 are summarized in the table below.

Group Technical Provisions As of December 31 (in $M)	2018	2017
Best Estimate Claim Provisions	7,315	7,627
Best Estimate Premium Provisions	(2,941)	(2,019)
Risk Margin	1,261	1,175
Total Technical Provisions	5,636	6,783

We note that due to ARL filing its statutory return on a consolidated basis, ARL's TPs as of December 31, 2018 and 2017 are equivalent to those of ACGL.

4.2.2 Uncertainty

TPs represent estimates of what the insurer or reinsurer ultimately expects to pay on claims at a given time, based on facts and circumstances then known, and it is probable that the ultimate liability may exceed or be less than such estimates. Even actuarially sound methods can lead to subsequent adjustments to reserves that are both significant and irregular due to the nature of the risks written. Loss reserves and TPs are inherently subject to uncertainty.

In establishing loss reserves and TPs, we have made various assumptions relating to the pricing of our reinsurance contracts and insurance policies and have also considered available historical industry experience and current industry conditions. The timing and amounts of actual claim payments related to recorded reserves vary based on many factors including large individual losses and changes in the legal environment, as well as general market conditions. The ultimate amount of the claim payments could differ materially from our estimated amounts. Certain lines of business written by us, such as excess casualty, have loss experience characterized as low frequency and high severity. This may result in significant variability in loss payment patterns and, therefore, may impact the calculation of discounting for time value of money assumed by TPs along with the inherent volatility in the underlying nominal losses.

4.3 Reinsurance Recoverables

Ceded reinsurance recoverable amounts are valued using actuarial techniques and a conversion from GAAP amounts to TPs as described in the preceding section regarding technical provisions.

4.4 Valuation Bases, Assumptions and Methods for Other Liabilities

ACGL generally values its other liabilities on a GAAP basis, as described in Section 4.1.

Similar to assets, a series of adjustments to the GAAP valuations of various liabilities in line with BMA statutory return and EBS rules are undertaken, in order to comply with the BMA's "Guidance Note for Statutory Reporting Regime" for the reporting period's statutory filing.

Certain payable amounts are reduced for the amounts already due, which are included in the technical provision calculations described in the preceding sections.

4.5 Any Other Material Information

No other material information to report as of December 31, 2018.

Section 5 - Capital Management

5.1 Eligible Capital

5.1.1 Capital Management Policy and Process

ACGL has adopted governance and holding company oversight guidelines, which outline (i) areas where decisions are subject to the review and approval by ACGL, including decisions relating to capital requirements, and (ii) the process for ACGL review and approval.

The capital commitments and capital management decisions subject to review and approval by ACGL include acquisitions/divestitures, incurrence of debt or equity, issuance of guarantees, payment of dividends, changes in corporate structure and regulatory capital commitments. ACGL reviews and approves the annual business plan and capital expenditures budget (together "Annual Plan") proposed by each operating unit. The Annual Plan incorporates the fundamental business and risk profile characteristics of each line of business, and any material changes in (or variations from) the business or risk profile reflected in the Annual Plan requires prior review and approval by ACGL. The Annual Plan therefore serves as an important element in determining whether actions or changes in the operating units' businesses will be subject to review and approval by ACGL.

In the event that an operating unit is involved in a proposed transaction or situation that may require a revision to the Annual Plan, the guidelines require that the unit send to the CFO, with a copy to the General Counsel, a communication providing a summary of the transaction or situation, including proposed terms and timing and the manner in which the transaction or situation differ from the Annual Plan.

Requests for capital and other capital requirements are reviewed by ACGL in the context of the broader Arch group, including all subsidiary companies. ACGL considers, among other things, the capital needs of other operating groups, the capital and/or liquidity needs of ACGL, the broader strategic objectives of the Group, and the regulatory, compliance and ratings implications. If applicable, the CFO (or his designee) will also seek any required approvals, including from the Board or lenders to ACGL.

5.1.2 Eligible Capital

ACGL

ACGL's eligible capital by Tier under BMA definitions is summarized in the table below.

ACGL Eligible Capital As of December 31 (in $M)	2018	2017
Tier 1	10,663	9,718
Tier 2	2,364	2,335
Tier 3	950	950
Total	13,977	13,004

Tier 1 capital is comprised of fully paid common shares, contributed surplus or share premium, convertible preferred shares, and statutory economic surplus as of December 31, 2018. These amounts are then reduced by the amount of treasury shares and encumbered assets as defined by the BMA.

Tier 2 capital is comprised of the following as of December 31, 2018:

(i) $450 million of Series E Preference Shares approved by the BMA as Tier 2 Basic Capital on 5/21/2018.
(ii) $330 million of Series F Preference Shares approved by the BMA as Tier 2 Basic Capital on 5/21/2018.
(iii) $300 million of Senior Notes due May 2034 approved by the BMA as Tier 2 Ancillary Capital on 12/15/2016.
(iv) $500 million of Senior Notes due November 2043 approved by the BMA as Tier 2 Ancillary Capital on 6/4/2015.
(v) $784 million of additional funds moved from Tier 1 as determined by the BMA's encumbered asset formulas

Tier 3 capital is comprised of the following as of December 31, 2018:

(vi) $450 million of Senior Notes due December 2046 approved by the BMA as Tier 3 Ancillary Capital on 5/21/2018.
(vii) $500 million of Senior Notes due December 2026 approved by the BMA as Tier 3 Ancillary Capital on 5/21/2018.

Items (iii) and (iv) are subject to transitional arrangements as required under the Eligible Capital Rules, thus being considered eligible capital until 2026.

ACGL has $56 million of encumbered assets as defined by the BMA, affecting the availability and transferability of capital to meet the Enhanced Capital Requirement ("ECR") regulatory requirements. These amounts consist of deposits required by overseas regulators and various other encumbrances, and have been removed from the eligible capital amounts identified above.

ACGL reported $9,440 million of GAAP shareholder's equity as of December 31, 2018 as compared to $14,034 million of available statutory capital and surplus, a difference of $4,594 million. Differences between GAAP and statutory equity correspond to the valuation of assets and liabilities sections above, with the most significant adjustments related to the movement from GAAP basis recognition of loss, expense, and unearned premium reserves and receivable/payable amounts to EBS technical provisions.

ARL

ARL's eligible capital by Tier under BMA definitions is summarized in the table below.

ARL Eligible Capital As of December 31 (in $M)	2018	2017
Tier 1	11,629	10,687
Tier 2	1,284	1,163
Tier 3	950	950
Total	13,863	12,800

Items (i), (ii), (iii) identified as Tier 2 capital in the ACGL subsection above are recognized as Tier 1 capital for ARL, due to the entire amount of ACGL capital and surplus being recognized as such on ARL's consolidated financial return.

The amounts identified above for ACGL and ARL are fully available to meet the ECR regulatory requirements, as outlined below. All Tier 1 and Tier 2 amounts are fully available to meet the Minimum Margin of Solvency ("MSM").

5.2 Regulatory Capital Requirements

ACGL's ECR as determined using the BMA's Bermuda Solvency Capital Requirement ("BSCR") model and MSM using the aggregation method are summarized in the table below.

ACGL Regulatory Capital Requirements As of December 31 (in $M)	2018	2017
Enhanced Capital Requirement	4,732	5,401
Minimum Margin of Solvency	4,732	5,401

ARL's ECR and MSM as determined using the BMA's BSCR model are summarized in the table below.

ARL Regulatory Capital Requirements As of December 31 (in $M)	2018	2017
Enhanced Capital Requirement	3,232	3,352
Minimum Margin of Solvency	867	1,958

As of the end of the reporting period, ACGL and ARL are compliant with all ECR and MSM capital requirements.

5.3 Internal Capital Model

This section is not applicable to ACGL or ARL, as we have not applied to have our internal model approved to determine regulatory capital requirements.

Section 6 - Subsequent Event

On November 1, 2018, the Group announced that its U.K. insurance operations entered into a renewal rights transaction with The Ardonagh Group of a U.K. commercial lines book of business, consisting of commercial property, casualty, motor, professional liability, personal accident and travel business. The transaction closed on January 1, 2019.

Declaration

To the best of our knowledge and belief, this financial condition report fairly represents the financial condition of ACGL in all material respects.

Signed: ______________________ Date: 05/28/2019

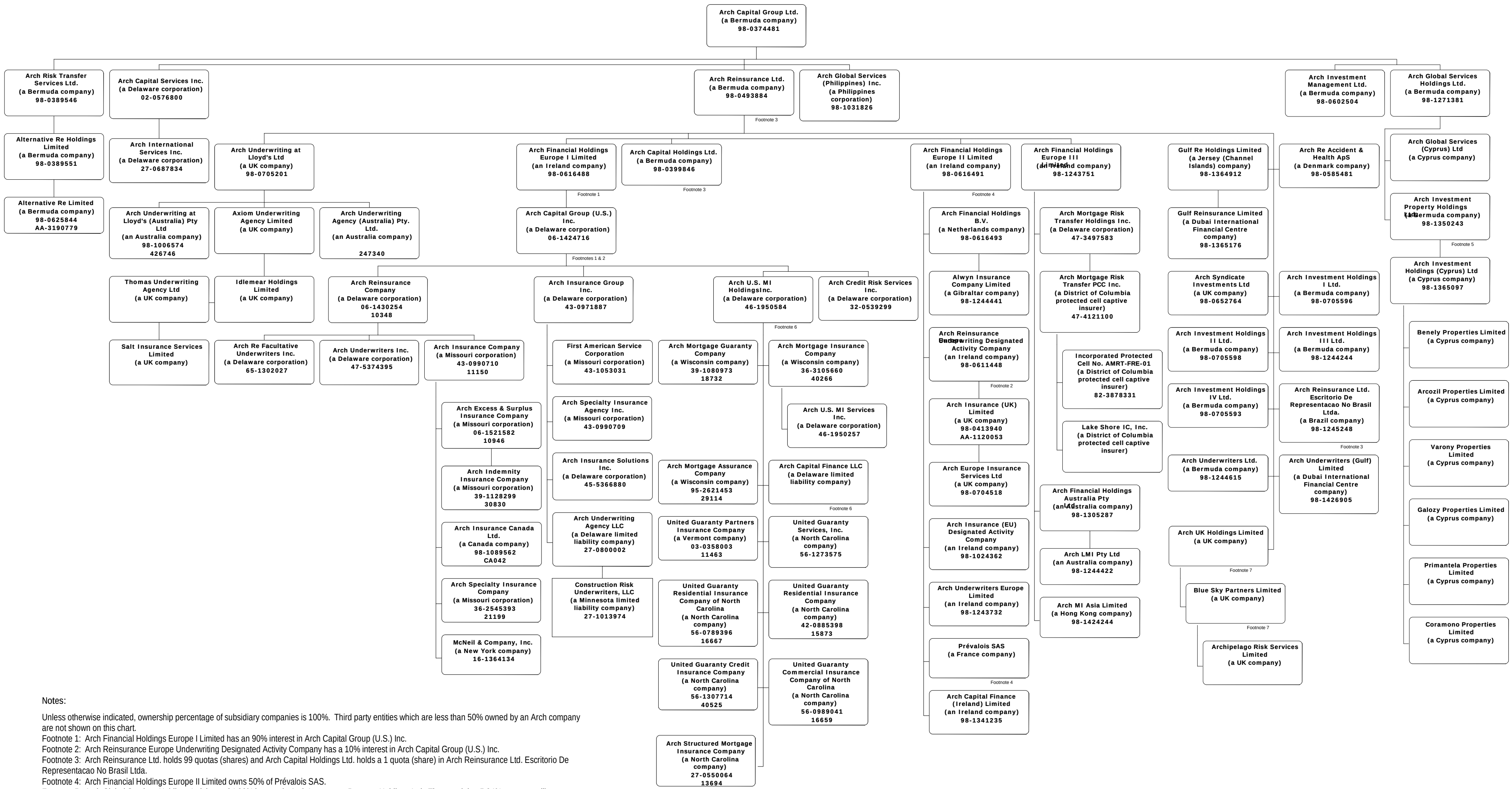
Marc Grandisson
Chief Executive Officer, ACGL

Signed: ______________________ Date: 5/21/2019

Janice Englesbe
Chief Risk Officer, ACGL

APPENDIX – ACGL Organizational Structure

Date: 3/31/2019



Notes:

Unless otherwise indicated, ownership percentage of subsidiary companies is 100%. Third party entities which are less than 50% owned by an Arch company are not shown on this chart.

Footnote 1: Arch Financial Holdings Europe I Limited has an 90% interest in Arch Capital Group (U.S.) Inc.

Footnote 2: Arch Reinsurance Europe Underwriting Designated Activity Company has a 10% interest in Arch Capital Group (U.S.) Inc.

Footnote 3: Arch Reinsurance Ltd. holds 99 quotas (shares) and Arch Capital Holdings Ltd. holds a 1 quota (share) in Arch Reinsurance Ltd. Escritorio De Representacao No Brasil Ltda.

Footnote 4: Arch Financial Holdings Europe II Limited owns 50% of Prévalois SAS.

Footnote 5: Arch Global Services Holdings Ltd. has a 94.06% interest in Arch Investment Property Holdings Ltd. The remaining 5.94% non-controlling interest is held by a third party investor.

Footnote 6: Arch U.S. MI Holdings Inc. is the sole member of Arch Capital Finance LLC.

Footnote 7: Arch UK Holdings Limited owns 75% of Blue Sky Partners Limited.

Key: For each entity, the company name (jurisdiction), FEIN # (where applicable) and NAIC # (or equivalent number if applicable) are listed.