



ARCH CAPITAL GROUP LTD.  
(INCLUDING ARCH REINSURANCE LTD.)  
2016 FINANCIAL CONDITION REPORT

August 2017

# **FINANCIAL CONDITION REPORT**

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## SECTION 1.0 – BUSINESS AND PERFORMANCE

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### **1.1 Name of the Insurer**

Arch Capital Group Ltd. (“ACGL” or the “Group”)  
Waterloo House, Ground Floor  
100 Pitts Bay Road  
Pembroke HM 08 Bermuda

Arch Reinsurance Ltd. (“ARL”)  
Waterloo House, 1<sup>st</sup> Floor  
100 Pitts Bay Road  
Pembroke HM 08 Bermuda

### **1.2 Insurance Supervisor and Group Supervisor**

Bermuda Monetary Authority (“BMA”)  
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, 2017 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.

**Common Shares**

<b>Name and Address of Beneficial Owner</b>	<b>(A) Number of Common Shares Beneficially Owned(1)</b>	<b>(B) Rule 13d-3 Percentage Ownership(1)</b>
Artisan Partners Holdings LP (2) 875 East Wisconsin Avenue, Suite 800 Milwaukee, Wisconsin 53202	18,451,471	15.0 %
Cascade Investment, L.L.C. (3) 2365 Carillon Point Kirkland, Washington 98033	11,511,099	9.4 %
The Vanguard Group (4) 100 Vanguard Blvd. Malvern, PA 19355	9,170,623	7.5 %
Baron Capital Group, Inc. (5) 767 Fifth Avenue New York, New York 10153	8,765,845	7.1 %
BlackRock Inc. (6) 55 East 52nd Street New York, NY 10022	8,708,870	7.1 %
FPR Partners, LLC (7) 199 Fremont Street, Suite 2500 San Francisco, CA 94105	6,155,704	5.0 %
Constantine Iordanou (8)	3,525,629	2.8 %
John L. Bunce, Jr. (9)	685,965	*
Eric W. Doppstadt (10)	13,847	*
Kewsong Lee (11)	244,347	*
Yiorgos Lillikas (12)	15,996	*
Louis J. Paglia (13)	5,134	*
John M. Pasquesi (14)	1,753,031	1.4 %
Brian S. Posner (15)	20,382	*
Eugene S. Sunshine (16)	3,357	*
John D. Vollaro (17)	213,685	*
Marc Grandisson (18)	769,286	*
Mark D. Lyons (19)	156,443	*
David H. McElroy (20)	67,414	*
Nicolas Papadopoulos (21)	374,993	*
All directors and executive officers (17 persons) (22)	8,341,837	6.6 %

\* 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.

Additional information regarding insurance business written, including descriptions of each segment and further details associated with the above tables, is available in the *Business—Our Company—Operations* section of ACGL's most recent Annual Report for the year ended December 31, 2016 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**

	Year Ended December 31,					
	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Professional lines	\$ 440,149	21	\$ 434,024	21	\$ 476,604	22
Programs	330,322	16	423,157	21	480,580	22
Construction and national accounts	328,997	16	299,463	15	286,994	13
Travel, accident and health	224,380	11	160,132	8	145,732	7
Excess and surplus casualty	214,863	10	204,856	10	212,519	10
Property, energy, marine and aviation	175,376	9	203,186	10	244,640	11
Lenders products	105,650	5	106,916	5	100,407	5
Other	252,544	12	213,937	11	199,178	9
<b>Total</b>	<b>\$ 2,072,281</b>	<b>100</b>	<b>\$ 2,045,671</b>	<b>100</b>	<b>\$ 2,146,654</b>	<b>100</b>
<b>By client location</b>						
United States	\$ 1,718,415	83	\$ 1,710,918	84	\$ 1,726,181	80
Europe	173,423	8	187,020	9	240,136	11
Asia and Pacific	93,752	5	64,638	3	79,564	4
Other	86,691	4	83,095	4	100,773	5
<b>Total</b>	<b>\$ 2,072,281</b>	<b>100</b>	<b>\$ 2,045,671</b>	<b>100</b>	<b>\$ 2,146,654</b>	<b>100</b>
<b>By underwriting location</b>						
United States	\$ 1,690,208	82	\$ 1,673,867	82	\$ 1,688,887	79
Europe	327,034	16	317,998	16	394,430	18
Other	55,039	3	53,806	3	63,337	3
<b>Total</b>	<b>\$ 2,072,281</b>	<b>100</b>	<b>\$ 2,045,671</b>	<b>100</b>	<b>\$ 2,146,654</b>	<b>100</b>

## 1.6.2 Reinsurance Segment

	Year Ended December 31,					
	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Other specialty	\$ 348,852	33	\$ 298,794	29	\$ 405,126	32
Casualty	305,252	29	303,093	29	317,996	25
Property excluding property catastrophe	267,548	25	280,511	27	343,043	27
Property catastrophe	75,789	7	91,620	9	137,471	11
Marine and aviation	37,790	4	50,834	5	50,444	4
Other	18,625	2	13,556	1	11,911	1
<b>Total</b>	<b>\$ 1,053,856</b>	<b>100</b>	<b>\$ 1,038,408</b>	<b>100</b>	<b>\$ 1,265,991</b>	<b>100</b>
<b>By client location</b>						
United States	\$ 448,763	43	\$ 470,484	45	\$ 589,255	47
Europe	337,168	32	307,165	30	355,735	28
Asia and Pacific	111,821	11	94,609	9	142,626	11
Bermuda	74,347	7	80,888	8	77,620	6
Other	81,757	8	85,262	8	100,755	8
<b>Total</b>	<b>\$ 1,053,856</b>	<b>100</b>	<b>\$ 1,038,408</b>	<b>100</b>	<b>\$ 1,265,991</b>	<b>100</b>
<b>By underwriting location</b>						
Bermuda	\$ 277,625	26	\$ 281,985	27	\$ 394,351	31
United States	432,683	41	439,190	42	492,891	39
Europe	308,415	29	298,790	29	343,823	27
Other	35,133	3	18,443	2	34,926	3
<b>Total</b>	<b>\$ 1,053,856</b>	<b>100</b>	<b>\$ 1,038,408</b>	<b>100</b>	<b>\$ 1,265,991</b>	<b>100</b>

## 1.6.3 Mortgage Segment

	Year Ended December 31,					
	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
<b>By client location</b>						
United States	\$ 280,509	72	\$ 193,617	72	\$ 184,333	90
Other	110,957	28	73,876	28	20,504	10
<b>Total</b>	<b>\$ 391,466</b>	<b>100</b>	<b>\$ 267,493</b>	<b>100</b>	<b>\$ 204,837</b>	<b>100</b>
<b>By underwriting location</b>						
United States	\$ 186,826	48	\$ 125,317	47	\$ 98,809	48
Other	204,640	52	142,176	53	106,028	52
<b>Total</b>	<b>\$ 391,466</b>	<b>100</b>	<b>\$ 267,493</b>	<b>100</b>	<b>\$ 204,837</b>	<b>100</b>

We note that ACGL's acquisition of United Guaranty Corporation ("UGC") on December 31, 2016 is expected to increase Mortgage Segment premiums substantially for 2017 and subsequent years. While not present in the premium amounts above or other 2016 and prior income statement amounts, the effect of the UGC acquisition is present in the year-end 2016 capital and other balance sheet amounts displayed in this report, the Proxy, and the 10-K. Further information regarding the UGC acquisition is available throughout the 10-K.

## 1.7 Performance of Investments, Material Income and Expenses

### 1.7.1 Investments

The following table summarizes our invested assets.

	December 31, 2016		December 31, 2015	
	Amount	%	Amount	%
<b>Investable assets (1) (2):</b>				
Fixed maturities available for sale, at fair value	\$ 13,426,577	72.0	\$ 10,459,353	71.4
Fixed maturities, at fair value (3)	364,856	2.0	367,780	2.5
Fixed maturities pledged under securities lending agreements, at fair value	730,341	3.9	373,304	2.5
Total fixed maturities	14,521,774	77.9	11,200,437	76.5
Short-term investments available for sale, at fair value	612,005	3.3	587,904	4.0
Short-term investments, at fair value (3)	64,542	0.3	—	—
Cash	768,049	4.1	444,776	3.0
Equity securities available for sale, at fair value	518,041	2.8	618,405	4.2
Equity securities, at fair value (3)	25,328	0.1	798	—
Equity securities pledged under securities lending agreements, at fair value	14,639	0.1	10,777	0.1
Other investments available for sale, at fair value	167,970	0.9	300,476	2.1
Other investments, at fair value (3)	1,108,871	6.0	908,809	6.2
Investments accounted for using the equity method (4)	811,273	4.4	592,973	4.0
Securities transactions entered into but not settled at the balance sheet date	23,697	0.1	(20,524)	(0.1)
Total investable assets held by Arch	\$ 18,636,189	100.0	\$ 14,644,831	100.0

- (1) The table above excludes investable assets attributable to the 'other' segment.
- (2) This table excludes the collateral received and reinvested and includes the fixed maturities pledged under securities lending agreements, at fair value.
- (3) Represents investments which are carried at fair value under the fair value option and reflected as "investments accounted for using the fair value option" on our balance sheet. Changes in the carrying value of such investments are recorded in net realized gains or losses.
- (4) Changes in the carrying value of investment funds accounted for using the equity method are recorded as "equity in net income (loss) of investment funds accounted for using the equity method" rather than as an unrealized gain or loss component of accumulated other comprehensive income.

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, 2016	2.07%	2.13 %
Year Ended December 31, 2015	0.41%	-0.38 %
Year Ended December 31, 2014	3.21%	2.58 %

- (1) Our investment expenses were approximately 0.34%, 0.35% and 0.28%, respectively, of average invested assets in 2016, 2015 and 2014.

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

	Year Ended December 31,		
	2016	2015	2014
Fixed maturities	\$ 242,310	\$ 241,389	\$ 257,387
Term loan investments	26,550	19,290	21,521
Equity securities	13,823	14,339	13,005
Short-term investments	3,619	574	904
Other (1)	39,750	41,721	28,803
Gross investment income	326,052	317,313	321,620
Investment expenses (2)	(48,859)	(45,633)	(37,284)
Net investment income	\$ 277,193	\$ 271,680	\$ 284,336

- (1) Amounts include dividends and income distributions on investment funds and other items.
- (2) Investment expenses were approximately 0.34% of average invested assets for 2016, compared to 0.35% for 2015 and 0.28% for 2014.

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, 2016					
	Insurance	Reinsurance	Mortgage	Sub-Total	Other	Total
Gross premiums written (1)	\$ 3,027,049	\$ 1,494,397	\$ 499,725	\$ 5,019,363	\$ 535,094	\$ 5,202,134
Premiums ceded	(954,768)	(440,541)	(108,259)	(1,501,760)	(21,306)	(1,170,743)
Net premiums written	2,072,281	1,053,856	391,466	3,517,603	513,788	4,031,391
Change in unearned premiums	1,623	2,376	(104,750)	(100,751)	(45,818)	(146,569)
Net premiums earned	2,073,904	1,056,232	286,716	3,416,852	467,970	3,884,822
Other underwriting income	—	36,403	17,024	53,427	3,746	57,173
Losses and loss adjustment expenses	(1,359,313)	(475,762)	(28,943)	(1,864,018)	(321,581)	(2,185,599)
Acquisition expenses	(304,066)	(212,375)	(32,065)	(548,506)	(129,527)	(678,033)
Other operating expenses (2)	(353,782)	(143,408)	(101,293)	(598,483)	(25,163)	(623,646)
Underwriting income (loss)	\$ 56,743	\$ 261,090	\$ 141,439	459,272	(4,555)	454,717
Net investment income				277,193	89,549	366,742
Net realized gains (losses)				69,586	68,000	137,586
Net impairment losses recognized in earnings				(30,442)	—	(30,442)
Equity in net income (loss) of investment funds accounted for using the equity method				48,475	—	48,475
Other income (loss)				(800)	—	(800)
Corporate expenses (2)				(49,396)	—	(49,396)
UGC transaction costs and other (2)				(41,729)	—	(41,729)
Interest expense				(53,464)	(12,788)	(66,252)
Net foreign exchange gains (losses)				31,409	5,242	36,651
<b>Income (loss) before income taxes</b>				710,104	145,448	855,552
Income tax expense				(31,375)	1	(31,374)
<b>Net income (loss)</b>				678,729	145,449	824,178
Dividends attributable to redeemable noncontrolling interests				—	(18,349)	(18,349)
Amounts attributable to noncontrolling interests				—	(113,091)	(113,091)
<b>Net income (loss) available to Arch</b>				678,729	14,009	692,738
Preferred dividends				(28,070)	—	(28,070)
<b>Net income (loss) available to Arch common shareholders</b>				\$ 650,659	\$ 14,009	\$ 664,668
<b>Underwriting Ratios</b>						
Loss ratio	65.5%	45.0%	10.1%	54.6%	68.7%	56.3%
Acquisition expense ratio	14.7%	20.1%	11.2%	16.1%	27.7%	17.5%
Other operating expense ratio	17.1%	13.6%	35.3%	17.5%	5.4%	16.1%
Combined ratio	97.3%	78.7%	56.6%	88.2%	101.8%	89.9%
Goodwill and intangible assets	\$ 25,206	\$ 956	\$ 747,741	\$ 773,903	\$ 7,650	\$ 781,553
Total investable assets				\$ 18,636,189	\$ 1,857,763	\$ 20,493,952
Total assets				26,989,359	2,382,750	29,372,109
Total liabilities				18,855,858	1,205,126	20,060,984

- (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.
- (2) Certain expenses have been excluded from ‘corporate expenses’ and ‘other operating expenses’ totaling \$32.3 million and \$9.4 million, respectively, and reflected in ‘UGC transaction costs and other.’



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, 2016.

## SECTION 2.0 – GOVERNANCE STRUCTURE

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### **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:

- Constantine Iordanou – Chairman and Chief Executive Officer, ACGL
- Marc Grandisson – President and Chief Operating Officer, ACGL
- Mark D. Lyons – Executive Vice President, Chief Financial Officer and Treasurer, ACGL
- David H. McElroy – Chairman and Chief Executive Officer, Arch Worldwide Insurance Group
- Nicolas Papadopoulo – Chief Executive Officer, Arch Reinsurance Group
- David Gansberg – President and Chief Executive Officer, Arch Mortgage Insurance Company
- Jerome Halgan – President and Chief Executive Officer, Arch Reinsurance Company
- W. Preston Hutchings – President, Arch Investment Management Ltd. and Senior Vice President and Chief Investment Officer, ACGL
- John P. Mentz – President, Arch Insurance Group Inc.
- François Morin – Senior Vice President, Chief Risk Officer and Chief Actuary, ACGL
- Louis T. Petrillo – President and General Counsel, Arch Capital Services Inc.
- Maamoun Rajeh – Chairman and Chief Executive Officer, Arch Reinsurance Ltd.
- Andrew T. Rippert – Chief Executive Officer of Global Mortgage Group, ACGL

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 and Chief Executive Officer
- Nicolas Papadopoulo – Deputy Chairman
- Scott Stirling – Chief Underwriting Officer and Director
- Michelle Seymour-Smith – Chief Financial Officer
- Yves Charbonneau – 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 *Proposal 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.

The professional qualifications, skills, and expertise of the ARL board members qualifying them to carry out their functions are detailed below.

Mr. Rajeh has served as the Chairman and Chief Executive Officer of ARL since the summer of 2014. He previously served as the President and Chief Executive Officer of Arch Reinsurance Europe Underwriting Designated Activity Company (“Arch Re Europe”) since July 2012. Prior to that, he was the Chief Underwriting Officer of ARL from November 2005. He joined ARL in 2001 as an underwriter. From 1999 to 2001, Mr. Rajeh served as Assistant Vice President at HartRe, a subsidiary of The Hartford. Mr. Rajeh also served in several business analysis positions at the United States Fidelity and Guarantee Company between 1992 and 1996 and as an underwriter at F&G Re from 1996 to 1999. He has a B.S. from The Wharton School of Business of the University of Pennsylvania and he is a Chartered Property Casualty Underwriter.

Mr. Papadopoulo has served as the Chief Executive Officer of Arch Reinsurance Group, an officer position of ACGL, since July 2014. He also serves as a member of the Company’s Executive Strategy Committee. Prior to July 2014, he served as President and Chief Executive Officer of ARL since November 2005. Prior to November 2005, he served as Chief Underwriting Officer of ARL from October 2004. He joined ARL in December 2001 as a Senior Property Underwriter. Prior to that time, he held various positions at Sorema N.A. Reinsurance Group, a U.S. subsidiary of Groupama from 1990, including Executive Vice President and Chief Underwriting Officer since 1997. Prior to 1990, Mr. Papadopoulo was an insurance examiner with the Ministry of Finance, Insurance Department, in France. Mr. Papadopoulo graduated from École Polytechnique in France and École Nationale de la Statistique et de l’Administration Economique in France with a masters degree in statistics. He is also a Member of the International Actuarial Association and a Fellow at the French Actuarial Society.

Mr. Stirling has served as Chief Underwriting Officer of ARL since joining the company in March 2014. Prior to that, he was a Vice President with the Berkshire Hathaway Reinsurance Division from 2002 to 2014 and from 1993 to 2000. He served as Senior Vice President with Ace Tempest Re from 2000 to 2002, Vice President with North American Re from 1990 to 1993 and has held various positions with Industrial Risk Insurers from 1984 to 1990. He has a B.A. in Mathematics and Economics from Denison University and is a Chartered Property Casualty Underwriter and Associate in Reinsurance.

## **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;
- Counterparty credit risk; and
- Operational, including governance, regulatory, business/strategic, investor relations (reputational), rating agency and outsourcing risks.

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.

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.

### Risk Monitoring and Control

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&R Committee 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 function'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 Chief Actuary oversees actuarial policies throughout the Group, as well as development of Group-wide actuarial techniques and education. 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, 2016.

## SECTION 3.0 – RISK PROFILE

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### **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 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 shareholders equity. 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, 2016.

## SECTION 4.0 – SOLVENCY VALUATION

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### **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 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 Economic Balance Sheet (“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 collectibles 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, 2016 are summarized in the table below.

Group Technical Provisions Net of External Reinsurance As of December 31, 2016 (in \$M)	
Best Estimate Claim Provisions	7,350
Best Estimate Premium Provisions	(1,332)
Risk Margin	1,055
Total Technical Provisions	7,074

We note that due to ARL filing its statutory return on a consolidated basis, ARL’s TPs as of December 31, 2016 are equivalent to those of ACGL.

### **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, 2016.

## SECTION 5.0 – CAPITAL MANAGEMENT

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### **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, 2016 (in \$M)	
Tier 1	8,386
Tier 2	1,123
Tier 3	0
Total	9,509

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, 2016. 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:

- (i) \$323 million of Series C Preference Shares approved by the BMA as Tier 2 Basic Capital on 5/9/2014.
- (ii) \$300 million of Senior Notes due May 2034 approved by the BMA as Tier 2 Ancillary Capital on 12/15/2016.
- (iii) \$500 million of Senior Notes due November 2043 approved by the BMA as Tier 2 Ancillary Capital on 6/4/2015.

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

ACGL has \$252 million of encumbered assets as defined by the BMA, affecting the availability and transferability of capital to meet the ECR. These amounts consist of balances supporting deposit liabilities, locked in investments, deposits required by overseas regulators, and various other encumbrances, and have been removed from the eligible capital amounts identified above.

ACGL reported \$8,254 million of GAAP shareholder's equity as of December 31, 2016 as compared to \$10,211 of available statutory capital and surplus, a difference of \$1,957 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, 2016 (in \$M)	
Tier 1	9,455
Tier 2	500
Tier 3	0
Total	9,955

Items (i) and (ii) 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. Also recognized as Tier 1 eligible capital for ARL, but currently not as eligible capital for ACGL, are \$450 million of Series E Preference Shares issued on September 29, 2016.

The amounts identified above for ACGL and ARL are fully available to meet both the Enhanced Capital Requirement ("ECR") and the Minimum Margin of Solvency ("MSM") regulatory requirements, as outlined below.

## **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.

<b>ACGL Regulatory Capital Requirements</b>	
<b>As of December 31, 2016 (in \$M)</b>	
Enhanced Capital Requirement	4,309
Minimum Margin of Solvency	4,309

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

<b>ARL Regulatory Capital Requirements</b>	
<b>As of December 31, 2016 (in \$M)</b>	
Enhanced Capital Requirement	3,113
Minimum Margin of Solvency	1,132

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 6.0 – SUBSEQUENT EVENT

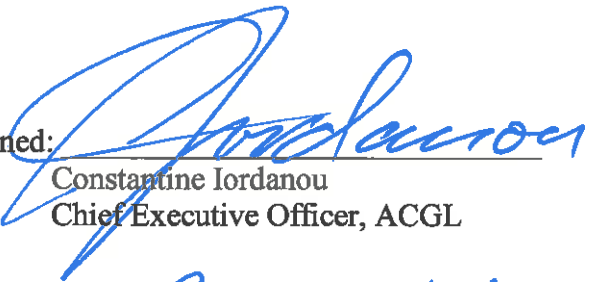
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No events significant to the financial condition of ACGL have occurred between December 31, 2016 and the date of this report.

## DECLARATION

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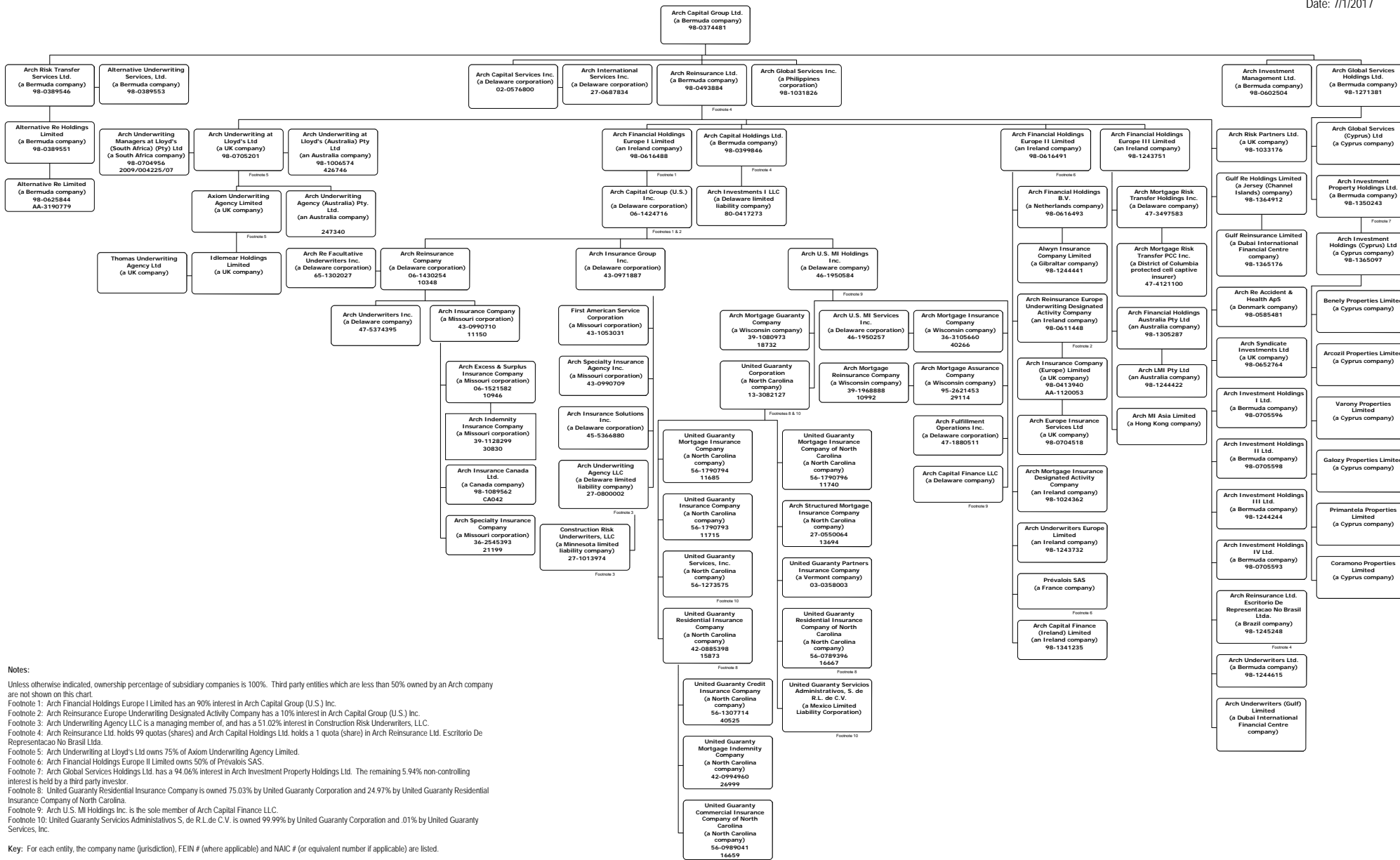
To the best of our knowledge and belief, this financial condition report fairly represents the financial condition of ACGL in all material respects.

Signed:  Date: 8/23/2017  
Constantine Iordanou  
Chief Executive Officer, ACGL

Signed:  Date: 8/23/17  
François Morin  
Chief Risk Officer, ACGL

# ARCH CAPITAL GROUP LTD. ORGANIZATION CHART

Date: 7/1/2017



**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 a 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 Underwriting Agency LLC is a managing member of, and has a 51.02% interest in Construction Risk Underwriters, LLC.

Footnote 4: 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 5: Arch Underwriting at Lloyd's Ltd owns 75% of Axiom Underwriting Agency Limited.

Footnote 6: Arch Financial Holdings Europe II Limited owns 50% of Prevalois SAS.

Footnote 7: 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 8: United Guaranty Residential Insurance Company is owned 75.03% by United Guaranty Corporation and 24.97% by United Guaranty Residential Insurance Company of North Carolina.

Footnote 9: Arch U.S. MI Holdings Inc. is the sole member of Arch Capital Finance LLC.

Footnote 10: United Guaranty Servicios Administrativos S. de R.L. de C.V. is owned 99.99% by United Guaranty Corporation and .01% by United Guaranty Services, Inc.

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