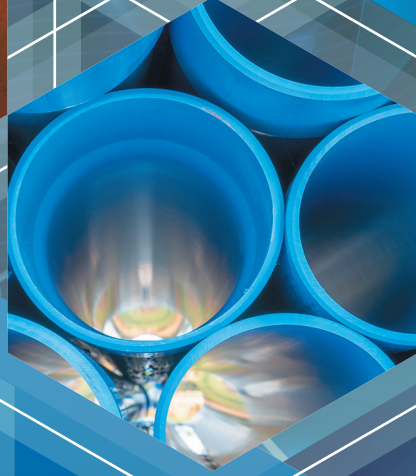


NOTICE OF ANNUAL MEETING OF STOCKHOLDERS AND
2020 PROXY STATEMENT



Strategic Evolution:
Defining Our Future





Valleybrooke Corporate Center
300 Lindenwood Drive
Malvern, Pennsylvania 19355-1740

March 26, 2020

Dear Stockholder:

We cordially invite you to attend our 2020 Annual Meeting of Stockholders on Thursday, April 30, 2020, at 10:00 a.m. (Eastern Time), to be conducted exclusively via live webcast at <http://www.virtualshareholdermeeting.com/PQG2020>.

The proxy statement accompanying this letter describes the business we will consider at the annual meeting. Your vote is important regardless of the number of shares you own. Whether or not you plan to attend the annual meeting online, we encourage you to consider the matters presented in the proxy statement and vote as soon as possible. Instructions for Internet and telephone voting are attached to your proxy card. If you prefer, you can vote by mail by completing and signing your proxy card and returning it in the enclosed envelope.

With the rapidly escalating COVID-19 pandemic, we are operating in an unprecedented and evolving situation with potential far-reaching implications for our employees, customers, investors and communities. Across PQ globally, I am proud to report that our leaders and their teams are moving quickly to adapt to our new, uncharted operating conditions. Despite increased uncertainty, our Board and leadership team have not lost sight of our commitment to deliver value to our shareholders. We will diligently work to mitigate market challenges, particularly this one, and we will continue to push ahead on our key strategic objectives to optimize our business portfolio for Profitable Growth, Capital Efficiency and Free Cash Flow.

We hope that you will be able to join us on April 30th.

Sincerely,

A handwritten signature in black ink, appearing to read "Belgacem Chariag".

Belgacem Chariag

Chairman, President and Chief Executive Officer

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

The 2020 Annual Meeting of Stockholders (the “Annual Meeting”) of PQ Group Holdings Inc. (the “Company”) will be a virtual meeting conducted exclusively via live webcast at <http://www.virtualshareholdermeeting.com/PQG2020> on Thursday, April 30, 2020, at 10:00 a.m. (Eastern Time) for the following purposes as further described in the proxy statement accompanying this notice:

- To elect the three Class III director nominees specifically named in the proxy statement, each to serve for a term of three years.
- To hold an advisory vote on the compensation paid by the Company to its named executive officers (the “say-on-pay proposal”).
- To ratify the appointment of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2020.
- To approve the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated (as described in the proxy statement and attached as Exhibit A thereto).
- To consider any other business properly brought before the Annual Meeting.

Stockholders of record at the close of business on March 3, 2020 are entitled to notice of, and entitled to vote at, the Annual Meeting and any adjournments or postponements thereof.

In light of the public health and travel safety concerns related to the ongoing coronavirus (COVID-19) outbreak and after careful consideration, the Company has determined to hold a virtual annual meeting in order to facilitate stockholder attendance and participation by enabling stockholders to participate from any location and at no cost. You will be able to attend the meeting online, vote your shares electronically and submit questions during the meeting by visiting <http://www.virtualshareholdermeeting.com/PQG2020>. To participate in the virtual meeting, you will need the control number included on your proxy card or voting instruction form. The meeting webcast will begin promptly at 10:00 a.m. (Eastern Time). We encourage you to access the meeting prior to the start time. Online check-in will begin at 9:00 a.m. (Eastern Time), and you should allow ample time for the check-in procedures. If you encounter any difficulties accessing the virtual meeting during the check-in or meeting time, please call the technical support number that will be posted on the Virtual Shareholder Meeting log in page.

By Order of the Board of Directors,



Joseph S. Kosciński
Secretary

Malvern, Pennsylvania
March 26, 2020

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PQ GROUP HOLDINGS INC.

PROXY STATEMENT

2020 ANNUAL MEETING OF STOCKHOLDERS

April 30, 2020

10:00 a.m. (Eastern Time)

INTRODUCTION

This Proxy Statement provides information for stockholders of PQ Group Holdings Inc. (“we,” “us,” “our,” “PQ” and the “Company”), as part of the solicitation of proxies by the Company and its board of directors (the “Board”) from holders of the outstanding shares of the Company’s common stock, par value \$0.01 per share (“Common Stock”), for use at the Company’s annual meeting of stockholders to be held as a virtual meeting conducted exclusively via live webcast at <http://www.virtualshareholdermeeting.com/PQG2020> on Thursday, April 30, 2020 at 10:00 a.m. (Eastern Time), and at any adjournments or postponements thereof (the “Annual Meeting”).

At the Annual Meeting, stockholders will be asked to vote either directly or by proxy on the following matters discussed herein:

1. To elect the three Class III director nominees specifically named in this Proxy Statement, each to serve for a term of three years (Proposal 1).
2. To hold an advisory vote on the compensation paid by the Company to its named executive officers (the “say-on-pay proposal”) (Proposal 2).
3. To ratify the appointment of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2020 (Proposal 3).
4. To approve the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated (Proposal 4).
5. To consider any other business properly brought before the Annual Meeting.

This Proxy Statement, the proxy card and the Annual Report to stockholders for the fiscal year ended December 31, 2019 are being first mailed to stockholders on or about March 26, 2020.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING TO BE HELD ON APRIL 30, 2020: THIS PROXY STATEMENT, THE ANNUAL REPORT AND THE FORM 10-K FOR FISCAL 2019 ARE AVAILABLE AT WWW.PROXYVOTE.COM.

INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Although we encourage you to read this Proxy Statement in its entirety, we include this Q&A section to provide some background information and brief answers to several questions you might have about the Annual Meeting.

Why are we providing these materials?

Our Board is providing these materials to you in connection with our Annual Meeting, which will be a virtual meeting conducted exclusively via live webcast at <http://www.virtualshareholdermeeting.com/PQG2020> on April 30, 2020 at 10:00 a.m. (Eastern Time). Stockholders are invited to attend the Annual Meeting online and are requested to vote on the proposals described herein.

What information is contained in this Proxy Statement?

This Proxy Statement contains information relating to the proposals to be voted on at the Annual Meeting, the voting process, the compensation of our directors and most highly paid officers, and other required information.

What proposals will be voted on at the Annual Meeting?

There are four proposals scheduled to be voted on at the Annual Meeting:

- the election of the three Class III director nominees specifically named in this Proxy Statement, each to serve for a term of three years;
- an advisory vote on the say-on-pay proposal;
- the ratification of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2020; and
- the approval of the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated.

We will also consider other business properly brought before the Annual Meeting.

Can I attend the Annual Meeting?

In light of the public health and travel safety concerns related to the ongoing coronavirus (COVID-19) outbreak and after careful consideration, the Company has determined to hold a virtual annual meeting in order to facilitate stockholder attendance and participation by enabling stockholders to participate from any location and at no cost.

To participate in the virtual meeting, you will need the control number included on your proxy card or voting instruction form. The meeting webcast will begin promptly at 10:00 a.m. (Eastern Time). We encourage you to access the meeting prior to the start time. Online check-in will begin at 9:00 a.m. (Eastern Time), and you should allow ample time for the check-in procedures. If you encounter any difficulties accessing the virtual meeting during the check-in or meeting time, please call the technical support number that will be posted on the Virtual Shareholder Meeting log in page.

We are committed to ensuring that stockholders will be afforded the same rights and opportunities to participate as they would at an in-person meeting. You will be able to attend the meeting online, vote your shares electronically and submit questions during the meeting by visiting <http://www.virtualshareholdermeeting.com/PQG2020>. We will try to answer as many stockholder-submitted questions as time permits that comply with the meeting rules of conduct. However, we reserve the right to edit inappropriate language or to exclude questions that are not pertinent to meeting matters or that are otherwise inappropriate. If we receive substantially similar questions, we will group such questions together and provide a single response to avoid repetition.

What shares can I vote?

You may vote all shares of Common Stock that you owned as of the close of business on the record date, March 3, 2020. You may cast one vote per share, including shares (i) held directly in your name as the stockholder of record and (ii) held for you as the beneficial owner through a broker, bank, or other nominee. The proxy card will indicate the number of shares that you are entitled to vote.

As of March 3, 2020, there were 136,790,094 shares of Common Stock outstanding, all of which are entitled to be voted at the Annual Meeting.

A list of stockholders will be available at our headquarters at Valleybrooke Corporate Center, 300 Lindenwood Drive, Malvern, Pennsylvania 19355 for a period of at least ten days prior to the Annual Meeting. A list of stockholders will also be available electronically on the virtual meeting website during the meeting.

What is the difference between being a stockholder of record and a beneficial owner of shares held in street name?

Many of our stockholders hold their shares through brokers, banks, or other nominees, rather than directly in their own names. As summarized below, there are some differences between being a stockholder of record and a beneficial owner of shares held in street name.

Stockholder of record: If your shares are registered directly in your name with PQ's transfer agent, American Stock Transfer and Trust Company, LLC, you are the stockholder of record with respect to those shares and the proxy materials were sent directly to you. As the stockholder of record, you have the right to grant your voting proxy directly to the individuals named on the proxy card and to vote at the Annual Meeting.

Beneficial owner of shares held in street name: If your shares are held in a brokerage account or by a bank or other nominee, then you are the "beneficial owner of shares held in street name" and the proxy materials were forwarded to you by your broker, bank or other nominee, who is considered to be the stockholder of record. As a beneficial owner, you have the right to instruct the broker, bank or other nominee holding your shares how to vote your shares.

How do I vote?

There are four ways to vote:

- **By attending the Annual Meeting Online.** During the Annual Meeting, you may vote online by following the instructions at <http://www.virtualshareholdermeeting.com/PQG2020>. Have your proxy card or voting instruction form available when you access the virtual meeting webpage.
- **Online.** You may vote by proxy by visiting www.proxyvote.com and entering the control number found on your proxy card. The availability of online voting may depend on the voting procedures of the broker, bank or other nominee that holds your shares.
- **Phone.** You may vote by proxy by calling the toll free number found on your proxy card. The availability of phone voting may depend on the voting procedures of the broker, bank or other nominee that holds your shares.
- **Mail.** You may vote by proxy by filling out your proxy card and returning it in the envelope provided.

All shares represented by valid proxies received prior to the taking of the vote at the Annual Meeting will be voted and, where a stockholder specifies by means of the proxy a choice with respect to any matter to be acted upon, the shares will be voted in accordance with the stockholder's instructions. Even if you plan on attending the Annual Meeting online, we encourage you to vote your shares in advance to ensure that your vote will be represented at the Annual Meeting.

Can I change my vote or revoke my proxy?

You may revoke your proxy and change your vote at any time before the taking of the vote at the Annual Meeting.

- **By Attending the Annual Meeting Online.** You may revoke your proxy and change your vote by attending the Annual Meeting online and voting electronically during the meeting. However, your attendance online at the Annual Meeting will not automatically revoke your proxy unless you properly vote electronically during the Annual Meeting or specifically request that your prior proxy be revoked by delivering a written notice of revocation prior to the Annual Meeting to PQ's Secretary at 300 Lindenwood Drive, Malvern, Pennsylvania 19355.
- **Online.** You may change your vote using the online voting method described above, in which case only your latest internet proxy submitted prior to the Annual Meeting will be counted.
- **Phone.** You may change your vote using the phone voting method described above, in which case only your latest telephone proxy submitted prior to the Annual Meeting will be counted.

- **Mail.** You may revoke your proxy and change your vote by signing and returning a new proxy card dated as of a later date, in which case only your latest proxy card received prior to the Annual Meeting will be counted.

What happens if I do not instruct how my shares should be voted?

Stockholders of record. If you are a stockholder of record and you:

- indicate when voting online or by phone that you wish to vote as recommended by the Board; or
- sign and return a proxy card without giving specific instructions,

then the persons named as proxy holders, Joseph S. Koscinski and William J. Sichko, Jr., will vote your shares in the manner recommended by the Board on all matters presented in this Proxy Statement and as they may determine in their best judgment with respect to any other matters properly presented for a vote at the Annual Meeting.

Beneficial owners of shares held in street name. If you are a beneficial owner of shares held in street name and do not provide the broker, bank or other nominee that holds your shares with specific voting instructions, then the broker, bank or other nominee that holds your shares may generally vote your shares in their discretion on “routine” matters, but cannot vote on “non-routine” matters.

What are routine and non-routine proposals?

The following proposal is considered a routine matter:

- The ratification of the appointment of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2020 (Proposal 3).

A broker, bank or other nominee may generally vote in their discretion on routine matters, and therefore no broker non-votes are expected in connection with Proposal 3.

The following proposals are considered non-routine matters:

- Election of directors (Proposal 1);
- Advisory vote on the say-on-pay proposal (Proposal 2); and
- Vote to approve the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated (Proposal 4).

If the broker, bank or other nominee that holds your shares does not receive instructions from you on how to vote your shares on a non-routine matter, that broker, bank or other nominee will inform the inspector of election that it does not have the authority to vote on the matter with respect to your shares. This is generally referred to as a “broker non-vote.” Therefore, broker non-votes may exist in connection with Proposals 1, 2 and 4.

What constitutes a quorum for the Annual Meeting?

The presence at the meeting, online or by proxy, of the holders of Common Stock representing a majority of the shares outstanding and entitled to vote for the election of directors is necessary to constitute a quorum for all purposes.

What vote is required to approve each proposal?

Proposal 1: Election of directors. Directors are elected by a plurality of the votes cast. Therefore, if you do not vote for a nominee, or you “withhold authority to vote” for a nominee, your vote will not count either “for” or “against” the nominee.

Proposal 2: Advisory vote on the say-on-pay proposal. Generally, approval of any matter presented to stockholders (other than the election of directors) requires the affirmative vote of a majority of the votes cast on the matter. However, because this proposal asks for a non-binding, advisory vote, there is no “required” vote that would constitute approval.

Proposal 3: Ratification of PwC. The affirmative vote of a majority of the votes cast is required to ratify the selection of PricewaterhouseCoopers LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2020.

Proposal 4: Approval of the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated. The affirmative vote of a majority of the votes cast is required to approve the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated.

What effect will broker non-votes and abstentions have?

Broker non-votes and abstentions are counted as present and entitled to vote for purposes of determining whether a quorum is present. Broker non-votes and abstentions will have no effect on the outcome of Proposals 1, 2 and 3. With respect to Proposal 4, under applicable rules of the New York Stock Exchange and guidance applicable to stockholder approval of equity compensation plans, an abstention is treated as a vote cast and it will have the same effect as a vote “against” the approval of the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated. Broker non-votes are not considered votes cast, and will have no effect on the results of Proposal 4.

Who pays for costs relating to the proxy materials and Annual Meeting?

The costs of preparing, assembling and mailing this Proxy Statement, the proxy card and the Annual Report, along with the cost of posting the proxy materials on a website, are to be borne by us. In addition to the use of mail, our directors, officers and employees may solicit proxies personally and by telephone, facsimile and other electronic means. They will receive no compensation in addition to their regular salaries. We may request banks, brokers and other custodians, nominees and fiduciaries to forward copies of the proxy materials to their principals and to request authority for the execution of proxies. We may reimburse these persons for their expenses in doing so.

Who should I call if I have any questions?

If you have any questions about the Annual Meeting, voting or your ownership of our Common Stock, please call us at (610) 651-4216 or send an email to PQGIR@pqcorp.com.

BOARD OF DIRECTORS

PROPOSAL 1

ELECTION OF DIRECTORS

PQ has a classified Board currently consisting of three directors with terms expiring in 2020 (Class III), four directors with terms expiring in 2021 (Class I) and four directors with terms expiring in 2022 (Class II). At each annual meeting of stockholders, directors in one class are elected for a full term of three years to succeed those directors whose terms are expiring. Martin Craighead, Andrew Currie and Timothy Walsh are the Class III directors whose terms expire at the Annual Meeting. Our Board has nominated, and stockholders are being asked to re-elect, Messrs. Craighead, Currie and Walsh for three-year terms expiring at our 2023 annual meeting of stockholders. If elected, the nominees will each hold office until our 2023 annual meeting of stockholders and a successor is duly elected and qualified or until earlier death, resignation, or removal.

Each of the above nominees has indicated his willingness to serve, if elected. However, if a nominee should be unable to serve, the shares of Common Stock represented by proxies may be voted for a substitute nominee designated by the Board. Management has no reason to believe that any of the above-mentioned persons will not serve his term as a director.

All of our nominees have served previously on our Board, which has provided them with significant exposure to both our business and the industry in which we compete. We believe that all our nominees possess the professional and personal qualifications necessary for board service, and we have highlighted particularly noteworthy attributes for each director in the individual biographies below.

The Board recommends a vote FOR the election of each of the director nominees.

The following table sets forth the name, age and class, as of March 1, 2020, of individuals who currently serve as directors on our Board.

Name	Age	Position	Class
Belgacem Chariag	57	Chairman, President and CEO	Class I
Greg Brenneman	58	Director	Class I
Jonny Ginns	46	Director	Class I
Kyle Vann	72	Director	Class I
Robert Coxon	72	Director	Class II
Mark McFadden	42	Director	Class II
Kimberly Ross ⁽¹⁾	54	Director	Class II
Christopher Behrens	59	Director	Class II
Martin Craighead	60	Director	Class III
Andrew Currie	64	Director	Class III
Timothy Walsh	56	Lead Independent Director	Class III

(1) Ms. Ross will resign from our Board effective on April 30, 2020.

Class III – Directors with Terms Expiring in 2020



MARTIN CRAIGHEAD

Age: 60

Independent Director

Martin Craighead has served on our Board since 2017. Mr. Craighead served as the Chief Executive Officer of Baker Hughes Incorporated, a supplier of oilfield services, from 2012 to 2017. He has also served as Chairman of the board of directors of Baker Hughes Incorporated from 2013 to 2017 and was a member of their board of directors from 2011 until 2017. From 2017 until May 2019, Mr. Craighead served on the board of Baker Hughes, a GE company, following the combination of Baker Hughes with GE's oil and gas business. Mr. Craighead currently serves on the boards of directors of Texas Instruments Inc. and Emerson Electric Company. He first joined Baker Hughes Incorporated in 1986 and was its Chief Operating Officer from 2009 to 2012 and Group President of drilling and evaluation from 2007 to 2009. He also served as President of INTEQ from 2005 to 2007 and President of Baker Atlas from February 2005 to August 2005. Because of his industry expertise in the energy sector and extensive management experience, we believe Mr. Craighead is well qualified to serve on our Board.



ANDREW CURRIE

Age: 64

Independent Director

Andrew Currie has served on our Board since 2008. Mr. Currie has been a director of INEOS Group, an affiliate of INEOS Limited ("INEOS"), since 1999, a partner of INEOS since 2000 and a director of INEOS AG since March 2010 when the ownership of the INEOS business was transferred to Switzerland. He was previously a Managing Director of Laporte Performance Chemicals, having served as a director of the Inspec Group from 1994 until the Laporte acquisition of Inspec in 1998. Mr. Currie spent the first 15 years of his career with BP Chemicals in various technical and business management functions. Because of his experience in the chemicals sector and his significant core business skills, including financial and strategic planning, we believe Mr. Currie is well qualified to serve on our Board.



TIMOTHY WALSH

Age: 56

Lead Independent Director

Timothy Walsh has served on our Board since 2014. Mr. Walsh is the President and Chief Executive Officer of CCMP Capital Advisors, LP ("CCMP") and is a member of the firm's Investment Committee. Mr. Walsh focuses on making investments in the industrial sector. Prior to joining CCMP upon its formation in August 2006, Mr. Walsh was with J.P. Morgan Partners, LLC and its predecessors from 1993 until 2006. Prior to that, Mr. Walsh worked on various industry-focused client teams within The Chase Manhattan Corporation. Mr. Walsh previously served on the boards of directors of Milacron Holdings Corp. from 2012 until 2019 and Generac Holdings Inc. from 2006 until 2016. Because of his knowledge of the industrial sector and his extensive experience in business and finance, we believe Mr. Walsh is well qualified to serve on our Board.

Class I – Directors with Terms Expiring in 2021



GREG BRENNEMAN

Age: 58

Independent Director

Greg Brenneman has served on our Board since 2014. Mr. Brenneman is the Executive Chairman of CCMP and is a member of the firm's Investment Committee. Prior to joining CCMP in October 2008, Mr. Brenneman served as the Chief Executive Officer of QCE Holdings LLC ("Quiznos"), a U.S. quick service restaurant chain, from January 2007 until September 2008 and as the President of Quiznos from January 2007 until November 2007. He also served as the Executive Chairman from 2008 to 2009. Prior to joining Quiznos, Mr. Brenneman was the Chairman and Chief Executive Officer of Burger King Corporation from 2004 to 2006. Prior to joining Burger King, Mr. Brenneman was named the President and Chief Executive Officer of PwC Consulting in June 2002. Mr. Brenneman joined Continental Airlines in 1995 as the President and Chief Operating Officer and as a member of its board of directors. In 1994, Mr. Brenneman founded Turnworks, Inc., his personal investment firm that focuses on corporate turnarounds. Prior to founding Turnworks, Mr. Brenneman was a Vice President for Bain and Company. Mr. Brenneman currently serves on the boards of directors of The Home Depot, Inc. and Baker Hughes, a GE Company. Mr. Brenneman previously served on the boards of directors of Milacron Holdings Corp. from 2012 until 2017, Automatic Data Processing, Inc. from 2001 until 2014 and Francesca's Holding Corporation from 2010 until 2015. Because of his leadership experience, over 20 years of business experience and extensive experience serving as a public company director, we believe Mr. Brenneman is well qualified to serve on our Board.



JONNY GINNS

Age: 46

Independent Director

Jonny Ginns has served on our Board since 2010. Mr. Ginns joined INEOS in 2006 as the Group General Counsel, having worked as an external lawyer for a number of years before that. He has experience across a wide range of fields, including mergers & acquisitions, disposals, joint ventures, litigation, finance and employee benefits, and acts as a director for a number of INEOS entities. Because of his significant core business skills, including financial and strategic planning, we believe Mr. Ginns is well qualified to serve on our Board.



KYLE VANN

Age: 72

Independent Director

Kyle Vann has served on our Board since 2014. Mr. Vann has served as an Executive Advisor to CCMP since October 2012 and has provided consulting services to Entergy Corporation since 2005. He served for 25 years in various senior leadership positions at Koch Industries, including as the Chief Executive Officer of Entergy-Koch LP, a joint venture between Koch Industries and Entergy Corporation. Before joining Koch Industries, Mr. Vann worked at Humble Oil and Refining Company (which later became part of Exxon) as a refinery engineer. Mr. Vann currently serves on the boards of directors of EnLink Midstream, LLC and Legacy Reserves LP. From 2006 to 2019, he served on the board of EnLink Midstream Partners LP. Because of his extensive experience in exploration and production, midstream, energy services and trading, we believe Mr. Vann is well qualified to serve on our Board.

**BELGACEM CHARIAG**

Age: 57

Chairman, President and
Chief Executive Officer

Belgacem Chariag became a director and our President and Chief Executive Officer in August 2018 and became our Chairman in December 2019. He most recently served as Chief Global Operations Officer at Baker Hughes, a GE Company, where he headed the operations of the global entity after Baker Hughes' merger with GE Oil & Gas, until January 2018. Prior to that, Mr. Chariag served as President, Global Operations as well as President, Global Products and Services for Baker Hughes. He also previously served as President of Baker Hughes Eastern Hemisphere Operations.

Prior to joining Baker Hughes in 2009, and for 20 years, Mr. Chariag held a variety of leadership and management roles for Schlumberger, including serving as Vice President of Health, Safety, Environment, and Security. Mr. Chariag was elected to serve as a member of the Board due to his extensive management and leadership experience.

Class II – Directors with Terms Expiring in 2022

**ROBERT COXON**

Age: 72

Independent Director

Robert Coxon has served on our Board since 2007. Mr. Coxon was previously a Senior Advisor to The Carlyle Group, assisting buyout teams in Europe, the United States, the Middle East and Asia until 2013. In that role, he advised Carlyle in making and managing investments in the chemicals sector and was based in London. Prior to joining Carlyle, Mr. Coxon was the Senior Vice President of ICI and the Chief Executive Officer of Syntex, a leading global catalyst company. From 2003 until 2017, Mr. Coxon served as the Chairman of the UK Center for Process Innovation, an international research center in printable electronics, bio-processing and low carbon energy. Mr. Coxon previously served on the board of directors of AZ Electronic Materials SA, Jiangsu Sinorgchem Technology Co., Ltd., Ensus Ltd. and Stahl Holdings BV. Because of his extensive experience in the chemicals sector, we believe Mr. Coxon is well qualified to serve on our Board.

**MARK MCFADDEN**

Age: 42

Independent Director

Mark McFadden has served on our Board since 2016. Mr. McFadden is a Managing Director of CCMP and focuses on making investments in the industrial sector. Prior to joining CCMP upon its formation in August 2006, Mr. McFadden was with J.P. Morgan Partners, LLC between 2002 and 2006. Prior to that, Mr. McFadden was an investment banking analyst at Credit Suisse First Boston and Bowles Hollowell Conner. From 2012 until 2018, Mr. McFadden served on the board of Milacron Holdings Corp. Because of his extensive experience in the industrial sector and his significant experience in, and knowledge of, corporate finance and strategic development, we believe Mr. McFadden is well qualified to serve on our Board.

**KIMBERLY ROSS**

Age: 54

Independent Director

Kimberly Ross has served on our Board since 2017. Ms. Ross currently is the Chief Financial Officer of WeWork, a space-as-a-service provider and she previously served as the Senior Vice President and Chief Financial Officer of Baker Hughes Incorporated, a supplier of oilfield services from 2014 to 2017. Prior to joining Baker Hughes Incorporated in November 2014, Ms. Ross served as the Executive Vice President and Chief Financial Officer of Avon Products Incorporated, a manufacturer of beauty products, from 2011 to 2014. Prior to joining Avon Products, Ms. Ross was an Executive Vice President and the Chief Financial Officer of Royal Ahold N.V., a food retailer, from 2007 to 2011 and held various other finance positions with Royal Ahold N.V. from 2001 to 2007. Ms. Ross currently serves on the boards of directors and the audit committees of Chubb Limited and Nestle S.A. and she will join the board of Cigna Corporation effective in June 2020. Ms. Ross will resign from our Board effective April 30, 2020.

**CHRISTOPHER
BEHRENS**

Age: 59

Independent Director

Christopher Behrens has served on our Board since 2019. Mr. Behrens is a Senior Advisor at CCMP and from August 2006 until December 2019 he was a Managing Director and member of the firm's Investment Committee. Mr. Behrens has extensive experience investing in a number of industries, including the energy, industrial and distribution sectors. Prior to joining CCMP upon its formation in August 2006, Mr. Behrens was with J.P. Morgan Partners, LLC and its predecessors from 1988 until 2006. Prior to that, he was in the Investment Banking group of The Chase Manhattan Corporation. Mr. Behrens previously served as a member of the board of directors of Chaparral Energy, Inc. from 2010 until 2017 and as a member of our Board from 2014 until 2017. Because of his past service on our Board and his extensive experience in the energy, industrial and distribution sectors, we believe Mr. Behrens is well qualified to serve on our Board.

DIRECTOR COMPENSATION

Director Compensation

In accordance with our non-employee director compensation policy, which has been in place since the time of our initial public offering, each of our non-employee directors who is not an employee of CCMP or INEOS is compensated as follows:

- Each eligible non-employee director receives an annual cash retainer of \$50,000.
- The chairperson of the audit committee receives an additional annual cash retainer of \$20,000.
- The chairperson of each other committee, to the extent eligible for compensation under the policy, receives an additional annual cash retainer of \$15,000.
- Each eligible non-employee director receives an annual equity grant in the form of restricted stock units with a grant date fair value of \$200,000. The terms of each such award are set forth in an award agreement between each director and us, which generally provides for vesting after one year of continued service as a director or upon an earlier occurrence of a change in control.

All cash and equity awards granted under the non-employee director compensation policy are granted under, and subject to the limits of, the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan (the “2017 Plan”). Annual retainers are paid quarterly in arrears.

In 2019 we did not pay any additional remuneration for director service to any of our directors who were either our officers or who were employees of CCMP or INEOS. However, all directors were reimbursed for reasonable travel and lodging expenses incurred to attend meetings of our Board or committees thereof.

On March 11, 2019, the Company granted to each of Ms. Ross, and Messrs. Coxon, Craighead and Vann, 12,979 restricted stock units. Each award vests subject to the continued service of the director through March 11, 2020 (or upon an earlier occurrence of a change in control).

Stock Ownership Guidelines for Non-Employee Directors

Under our stock ownership guidelines applicable to our executive officers and our non-employee directors, each of our non-employee directors is expected to have ownership of Company stock in an amount equal to at least \$625,000. Non-employee directors subject to the guidelines have five years to achieve the required ownership levels and, until they satisfy their ownership requirements, are subject to a holding requirement with respect to 50% of the shares they acquire upon the vesting or exercise of equity-based awards (on an after-tax basis). Non-employee directors who do not receive compensation for their service on the Board are not subject to these guidelines.

The following table summarizes the ownership of our Common Stock as of December 31, 2019 by our directors who are subject to our stock ownership guidelines:

Name	Ownership Requirement	Ownership ⁽¹⁾
Robert Coxon	\$625,000	\$1,445,830
Martin S. Craighead	\$625,000	\$ 913,221
Kimberly Ross	\$625,000	\$ 638,296
Kyle Vann	\$625,000	\$1,876,872

(1) In accordance with our stock ownership guidelines, ownership amounts have been determined based on a share price of \$16.04, which is the average closing price of our Common Stock on the New York Stock Exchange over the 90-day trading period prior to December 31, 2019.

Director Compensation Table

The following table sets forth certain information with respect to cash compensation and stock awards granted to our non-employee directors in 2019. Directors who are employees of CCMP or INEOS do not receive compensation. Mr. Chariag did not receive compensation in respect of his service on our Board. The compensation that he received in his capacity as an executive officer of the Company is reported in the Summary Compensation Table below.

Name	Fees Earned or Paid in Cash (\$) ⁽¹⁾	Stock Awards (\$) ⁽²⁾⁽³⁾	Non-Equity Incentive Plan Compensation (\$)	All Other Compensation (\$)	Total (\$)
Christopher Behrens	—	—	—	—	—
Greg Brenneman	—	—	—	—	—
Robert Coxon	65,000	200,006	—	—	265,006
Martin S. Craighead	50,000	200,006	—	—	250,006
Andy Currie	—	—	—	—	—
Jonny Ginns	—	—	—	—	—
Mark McFadden	—	—	—	—	—
Kimberly Ross	70,000	200,006	—	—	270,006
Kyle Vann	50,000	200,006	—	—	250,006
Timothy Walsh	—	—	—	—	—

(1) Mr. Coxon and Ms. Ross received an additional annual retainer for their services as committee chairs. Mr. Coxon served as the chair of the Health, Safety and Environment Committee, and Ms. Ross served as chair of the Audit Committee.

(2) As required by SEC rules, amounts shown present the aggregate grant date fair value of restricted stock unit awards granted to our non-employee directors during 2019, calculated in accordance with FASB ASC Topic 718, excluding the effect of any estimated forfeitures. For information on the valuation assumptions made in the calculation of these amounts, refer to Note 22 to the audited consolidated financial statements in our Form 10-K for the fiscal year ended December 31, 2019.

(3) As of December 31, 2019, Mr. Coxon held 25,476 outstanding unvested restricted shares subject to performance vesting; and the following directors held outstanding unvested restricted stock units: Mr. Coxon, 12,979, Mr. Craighead, 12,979, Ms. Ross, 12,979, and Mr. Vann, 12,979.

CORPORATE GOVERNANCE

Board Meetings and Executive Sessions

Our Board and its committees meet periodically throughout the year, as needed, to oversee management of the Company's business and affairs for the benefit of its stockholders. During 2019, our Board held six meetings and also approved certain actions by unanimous written consent. During 2019, each director attended at least 75% of the Board meetings and the total meetings held by all of the committees on which he or she served during the periods that he or she served. We encourage, but do not require, our directors to attend annual meetings of stockholders.

Periodically throughout the year, the non-employee and independent directors meet in executive session without members of management present. These meetings allow such directors to discuss issues of importance to the Company, including the business and affairs of the Company and matters concerning management, without any member of management present. The Board has selected Timothy Walsh as Lead Independent Director to preside at all meetings of non-employee and independent directors.

Committees and Committee Composition

During fiscal 2019, the Board had four standing committees: the Audit Committee, the Compensation Committee, the Nominating and Corporate Governance Committee, and the Health, Safety and Environment Committee. The members of each committee are appointed by the Board and serve until their successor is elected and qualified, unless they are earlier removed or resign. In addition, from time to time, special committees may be established under the direction of the Board when necessary to address specific issues. The table below provides information about the membership of these committees during fiscal 2019:

Name	Audit	Compensation	Nominating and Corporate Governance	Health, Safety and Environment
Kimberly Ross	*			
Jonny Ginns				X
Timothy Walsh		*		
Andrew Currie		X	X	
Greg Brenneman			*	
Martin Craighead			X	X
Kyle Vann	X	X		
Robert Coxon	X			*
Number of meetings during fiscal 2019	5	4	2	2

* Committee Chairperson

Audit Committee — The Audit Committee’s purpose, roles and responsibilities are set forth in a written charter adopted by our Board, which can be found in the Investors section of our website at www.pqcorp.com under “Corporate Governance.” The Audit Committee’s primary duties and responsibilities are to:

- appoint or replace, compensate and oversee the outside auditors, who will report directly to the Audit Committee, for the purpose of preparing or issuing an audit report or related work or performing other audit, review or attest services for us;
- pre-approve all auditing services and permitted non-audit services (including the fees and terms thereof) to be performed for us by our outside auditors, subject to de minimis exceptions that are approved by the Audit Committee prior to the completion of the audit;
- review and discuss with management and the outside auditors the annual audited and quarterly unaudited financial statements, our disclosures under “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the selection, application and disclosure of critical accounting policies and practices used in such financial statements; and
- discuss with management and the outside auditors any significant financial reporting issues and judgments made in connection with the preparation of our financial statements, including any significant changes in our selection or application of accounting principles, any major issues as to the adequacy of our internal controls and any special steps adopted in light of material control deficiencies.

The Audit Committee currently consists of Kimberly Ross, Robert Coxon and Kyle Vann, with Ms. Ross serving as chairperson of the committee. Our Board has determined that Ms. Ross and Messrs. Coxon and Vann each meet the independence requirements of Rule 10A-3 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the governance and listing standards of the New York Stock Exchange. All of the members of the Audit Committee are financially literate and Ms. Ross is also considered an “audit committee financial expert” within the meaning of the applicable rules of the Securities and Exchange Commission.

Compensation Committee — The purpose of the Compensation Committee is to assist the Board in fulfilling its responsibilities relating to oversight of the compensation of our directors, executive officers and other employees and the administration of our benefits and equity-based compensation programs. The Compensation Committee reviews and recommends to our Board compensation plans, policies and programs and approves specific compensation levels for all executive officers. The Compensation Committee currently consists of Timothy Walsh, Andrew Currie and Kyle Vann, with Mr. Walsh serving as the chairperson of the committee. Our Board has determined that each member of the Compensation Committee meets the independence requirements under the governance and listing standards of the New York Stock Exchange. The Compensation Committee’s purpose, roles and responsibilities are set forth in a written charter adopted by our Board, which can be found in the Investors section of our website at www.pqcorp.com under “Corporate Governance.”

Nominating and Corporate Governance Committee — The purpose of the Nominating and Corporate Governance Committee is to identify individuals qualified to become members of the Board, recommend to the Board director nominees for the next annual meeting of stockholders, develop and recommend to the Board a set of corporate governance principles applicable to the Company, oversee the evaluation of the Board and its dealings with management as well as appropriate committees of the Board and review and approve all related party transactions. The Nominating and Corporate Governance Committee currently consists of Greg Brenneman, Andrew Currie and Martin Craighead, with Mr. Brenneman serving as the chairperson of the committee. Our Board has determined that each member of the Nominating and Corporate Governance Committee is independent as defined under the governance and listing standards of the New York Stock Exchange. The Nominating and Corporate Governance Committee’s purpose, roles and responsibilities are set forth in a written charter adopted by our Board, which can be found in the Investors section of our website at www.pqcorp.com under “Corporate Governance.”

Health, Safety and Environment Committee — The purpose of the Health, Safety and Environment Committee is to assist the Board in fulfilling its responsibilities to provide global oversight of the Company’s health, safety, environment, sustainability and security policies, processes and initiatives. The Health, Safety and Environment Committee currently consists of Robert Coxon, Jonny Ginns and Martin Craighead, with Mr. Coxon serving as chairperson of the committee. The Health, Safety and

Environment Committee's purpose, roles and responsibilities are set forth in a written charter adopted by our Board, which can be found in the Investors section of our website at www.pqcorp.com under "Corporate Governance."

Compensation Committee Interlocks and Insider Participation

None of our executive officers serves as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our Board or Compensation Committee. Mr. Walsh is employed by CCMP and Mr. Currie is employed by INEOS. For additional information regarding transactions between CCMP and its affiliates and us and between INEOS and its affiliates and us, see "Transactions with Related Persons."

Our Board's Role in Risk Oversight

It is management's responsibility to manage risk and bring to the Board's attention risks that are material to PQ. The Board has oversight responsibility for the systems established to report and monitor the most significant risks applicable to PQ. The Board believes that evaluating the executive team's management of the various risks confronting PQ is one of its most important areas of oversight.

In accordance with this responsibility, the Board administers its risk oversight role directly and through its committee structure and the committees' regular reports to the Board at Board meetings. The Board reviews strategic, financial and execution risks and exposures associated with the annual plan and long-term plans, major litigation and other matters that may present material risk to the Company's operations, plans, prospects or the Company's reputation, acquisitions and divestitures, senior management succession planning and enterprise risk management. The Audit Committee oversees the Company's internal audit function and reviews risks associated with financial and accounting matters, including financial reporting, accounting, disclosure, internal controls over financial reporting, ethics and compliance programs, and regulatory compliance. The Audit Committee also oversees and reviews with management the Company's cybersecurity policies, procedures and programs, including hardware and software improvements, to mitigate the risk of cyber-related threats. The Compensation Committee reviews risks related to executive compensation and the design of compensation programs, plans and arrangements.

Policy Against Hedging of Stock

Our insider trading policy prohibits our directors, officers and employees from entering into hedging or monetization transactions, including through the use of financial instruments such as prepaid variable forwards, equity swaps, collars and exchange funds, because such transactions may permit a director, officer or employee to continue to own securities obtained through our employee benefit plans or otherwise, but without the full risks and rewards of ownership. When that occurs, the individual may no longer have the same objectives as our other stockholders.

Board Independence

Our Corporate Governance Guidelines provide that our Board shall consist of such number of directors who are independent as is required and determined in accordance with applicable laws and regulations and requirements of the New York Stock Exchange and Securities and Exchange Commission rules. Under our Corporate Governance Guidelines, an "independent" director is one who meets the qualification requirements for being an independent director under applicable laws and the corporate governance listing standards of the New York Stock Exchange. Our Board evaluates any relationships between each director or nominee and PQ and makes an affirmative determination whether or not such director or nominee is independent. As a result of this review, our Board has affirmatively determined that each current member of our Board, with the exception of Mr. Chariag, our Chairman, President and Chief Executive Officer, is independent under the corporate governance listing standards of the New York Stock Exchange.

Diversity and Board Expertise

We seek to have a Board that represents diversity as to experience, gender and ethnicity/race, but we do not have a formal policy with respect to diversity. The Board has committed to continuing its dedication to Board diversity by setting a target of appointing at least one woman to the Board within a year. We also seek a Board that reflects a range of talents, ages, skills, character and expertise, particularly in the areas of leadership, operations, risk management, accounting and finance, strategic planning and the industries in which we operate, sufficient to provide sound and prudent guidance with respect to our operations and interests.

Board and Committee Annual Performance Reviews

Our Corporate Governance Guidelines provide that the Nominating and Corporate Governance Committee is responsible for reporting annually to the Board an evaluation of the overall performance of the Board. In addition, the written charters of the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee provide that each such committee shall evaluate its performance on an annual basis using criteria that it has developed and shall report to the Board on its findings.

Director Nominations

Criteria and Process of Identifying and Evaluating Candidates for Consideration as a Director Nominee

Under its charter, our Nominating and Corporate Governance Committee is responsible for recommending to the Board candidates to stand for election to the Board at the Company's annual meeting of stockholders and for recommending candidates to fill vacancies on the Board that may occur between annual meetings of stockholders. The Nominating and Corporate Governance Committee may receive suggestions for new directors from a number of sources, including Board members and our President and Chief Executive Officer, and may also, in its discretion, employ a third-party search firm to assist in identifying candidates for director. The Corporate Governance Guidelines provide that each director should possess a combination of skills, professional experience and diversity of viewpoints necessary to oversee the Company's business. It is the policy of the Board that directors should possess the highest personal and professional ethics, integrity and values, and be committed to representing the long-term interests of the Company's stakeholders. Board members are expected to become and remain informed about the Company, its business and its industry and rigorously prepare for, attend and participate in all Board and applicable committee meetings. The Nominating and Corporate Governance Committee evaluates each individual in the context of the skills, character, diversity and expertise of the Board as a whole, with the objective of recommending a group that can best perpetuate the success of our business and represent stockholder interests through the exercise of sound judgment using its diversity of experience. In addition, the Nominating and Corporate Governance Committee considers, in light of our business, each director nominee's experience, qualifications, attributes and skills that are identified in the biographical information contained in this Proxy Statement.

Procedures for Recommendation of Director Nominees by Stockholders

The Nominating and Corporate Governance Committee considers properly submitted recommendations for candidates to the Board from stockholders in accordance with our Bylaws. Any stockholder may submit in writing a candidate for consideration for each stockholder meeting at which directors are to be elected by no later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the anniversary date of the prior year's annual meeting, except that if the annual meeting is set for a date that is not within 30 days of such anniversary date, we must receive the notice no later than the close of business on the tenth day following the day on which the date of the annual meeting is first disclosed in a public announcement. Any stockholder recommendations for consideration by the Nominating and Corporate Governance Committee should include the candidate's name, biographical information and the information required by Section 1.2 of our Bylaws. Recommendations should be sent to c/o Secretary, PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355. The Nominating and Corporate Governance Committee evaluates candidates for the position of director recommended by stockholders in the same manner as candidates from other sources. The Nominating and Corporate Governance Committee will determine whether to interview any candidates and may seek additional information about candidates from third-party sources.

Board Leadership Structure

Under our Corporate Governance Guidelines, our Board may select a Chairperson at any time, who may also be an executive officer of the Company. Mr. Chariag was elected as our Board Chairman in December 2019. The Board believes that combining the Chairperson and Chief Executive Officer positions is currently the most effective leadership structure for PQ. As Chief Executive Officer, Mr. Chariag is intimately involved in the day-to-day operations of our Company and is best positioned to lead the Board in setting the strategic focus and direction for our Company. The Board has also named Timothy Walsh as Lead Independent Director. In this role, Mr. Walsh has the power to call meetings of the independent directors and to preside over such meetings. The Board believes that the combination of the Chairman and Chief Executive Officer roles as part of a governance structure that includes a Lead Independent Director, as well as the exercise of key Board oversight responsibilities by independent directors, provides an effective balance for the management of the Company in the best interest of our stockholders.

Classified Board Structure

Since our initial public offering, we have maintained a classified board structure in which directors are divided into three classes and one class is elected each year to serve a three-year term. The Board believes that this classified board structure promotes continuity and stability of strategy, encourages a long-term perspective by Company management, because a majority of directors will always have experience as directors of the Company, and facilitates the ability of the Board to focus on creating long-term stockholder value.

Succession Planning

The Chief Executive Officer reviews succession planning and management development with the Board and the Nominating and Corporate Governance Committee on an annual basis. This succession planning includes the development of policies and principles for selection of the Chief Executive Officer, including succession in the event of an emergency or retirement.

Majority Voting Guidelines

Our Corporate Governance Guidelines provide that in an uncontested election of directors, any nominee for director who receives a greater number of votes “withheld” from his or her election than votes “for” such election shall promptly tender his or her resignation following certification of the stockholder vote. The Board shall determine whether or not to accept such resignation within a period of 120 days following the stockholder vote, and will promptly publicly disclose its decision to accept or reject the resignation and the reasons for doing so.

Policies Relating to Directors and Service

It is our policy that a director, other than the Chief Executive Officer, who is also an employee of the Company, shall offer his or her resignation from the Board to the Nominating and Corporate Governance Committee at the same time he or she retires or resigns from employment with the Company. In addition, it is our policy that directors who retire or otherwise change from the principal occupation or background association they held when they were originally invited to the Board should provide notice to the Nominating and Corporate Governance Committee or the Board and offer to resign from the Board. The Board does not believe that such directors should necessarily leave the Board, but it is our policy that there should be an opportunity for the Board to review the continued appropriateness of such director’s membership under these circumstances. Mr. Behrens notified the Nominating and Corporate Governance Committee that he would no longer be an employee and officer of CCMP effective as of January 1, 2020, and that he would become a Senior Advisor of CCMP as of that date. In connection with such notice, Mr. Behrens offered to resign as a member of our Board. The Nominating and Corporate Governance Committee determined that Mr. Behrens’ continued service on the Board was in the best interests of the Company and its stockholders, and declined Mr. Behrens’ offer to resign from the Board.

The Board also believes that each director should advise the Nominating and Corporate Governance Committee in advance of accepting an invitation to serve as a member on another board of directors. In general, the Board does not have a policy

limiting the number of other public company boards of directors upon which a director may sit. However, the Nominating and Corporate Governance Committee shall consider the number of other boards of directors (or comparable governing bodies), particularly with respect to public companies, on which a prospective nominee is a member. Although the Board does not impose a limit on outside directorships, it does recognize the substantial time commitments attendant to membership on the Board and expects that directors devote all such time as is necessary to fulfill their accompanying responsibilities, both in terms of preparation for, and attendance and participation at, meetings.

Pursuant to our Audit Committee charter and the New York Stock Exchange listing rules, members may serve on no more than three separate public company audit committees simultaneously without prior review and determination by the Board that such simultaneous service would not impair the ability of such member to effectively serve on the Company's Audit Committee.

Communications with Directors

Stockholders and other interested parties may communicate directly with the Board, the non-employee directors or the independent directors as a group, or specified individual directors by writing to such individual or group c/o Secretary, PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355. The Secretary will forward such communications to the relevant group or individual at or prior to the next meeting of the Board.

Code of Conduct

We have adopted a written Code of Conduct applicable to all employees and a written Code of Ethics for Senior Executive and Financial Officers, which are designed to ensure that our business is conducted with integrity. These codes cover, among other things, professional conduct, conflicts of interest, accurate recordkeeping and reporting, public communications and the protection of confidential information, as well as adherence to laws and regulations applicable to the conduct of our business. We intend to disclose any future amendments to, or waivers from, these codes of ethics for PQ executive officers within four business days of the waiver or amendment through a website posting or by filing a Current Report on Form 8-K with the Securities and Exchange Commission.

Online Availability of Information

The current versions of our Corporate Governance Guidelines, Code of Conduct, Code of Ethics for Senior Executive and Financial Officers and charters for our Audit Committee, Compensation Committee, Nominating and Corporate Governance Committee and Health, Safety and Environment Committee are available by clicking on "Corporate Governance" in the Investors section of our website, www.pqcorp.com. These materials are also available in print free of charge to stockholders, upon written request to c/o Secretary, PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355.

EXECUTIVE OFFICERS

The following table sets forth the name, age, and position, as of March 1, 2020, of our current executive officers.

Name	Age	Position
Belgacem Chariag	57	Chairman, President and Chief Executive Officer
Michael Crews	53	Executive Vice President and Chief Financial Officer
Scott Randolph	57	Vice President and President — Performance Materials
Albert F. Beninati Jr.	55	Vice President and President — Performance Chemicals
Ray Kolberg	58	Vice President and President — Catalysts
Kurt Bitting	44	Vice President and President — Refining Services
Joseph S. Koscinski	54	Vice President, Secretary and General Counsel
William J. Sichko, Jr.	66	Vice President, Chief Administrative Officer

Biographical information concerning Belgacem Chariag, our Chairman, President and Chief Executive Officer, is set forth above under “Board of Directors.”

Michael Crews became our Executive Vice President and Chief Financial Officer in August 2015. From 2008 to 2015, Mr. Crews was Executive Vice President and Chief Financial Officer at Peabody Energy Corporation. From 1998 to 2008, Mr. Crews held various management positions at Peabody Energy Corporation, including Vice President—Operations Planning, Assistant Treasurer and Director—Financial and Capital Planning. Mr. Crews began his career in KPMG’s audit function.

Scott Randolph became our Vice President and President—Performance Materials in March 2019 after having served as Executive Vice President and Group President—Performance Materials and Chemicals from December 2016 to February 2019. From March 2016 to December 2016, Mr. Randolph served as Vice President and President—Global Performance Chemicals after previously serving as Vice President and President—Performance Chemicals Americas and Australia and Performance Materials. From April 2005 to May 2016, Mr. Randolph served as President of Performance Materials. Mr. Randolph originally joined us as Senior Vice President Strategic Planning in February 2005. From 2000 to 2005, Mr. Randolph held the position of Chief Financial Officer with Peak Investments, LLC. From 1990 to 2000, Mr. Randolph held a number of management positions with Harris Chemical Group and IMC Global following IMC Global’s acquisition of Harris Chemical Group. Mr. Randolph’s last position with IMC Global was General Manager of the Worldwide Boron Business. From 1989 to 1990, Mr. Randolph held management positions with General Chemical. Prior to that, Mr. Randolph served as a nuclear trained naval officer from 1984 to 1989.

Albert F. Beninati Jr. became our Vice President and President—Performance Chemicals in December 2019. He most recently served as Business Segment President for W.R. Grace & Co.’s Specialty Catalyst business from 2016 to 2019 and also served as W.R. Grace’s President – Catalyst Technologies from 2014 until 2016. Prior to joining W.R. Grace in 2014, Mr. Beninati served as Vice President, Municipal Water Treatment at Univar, a leading distributor of chemicals, and also had a 22-year career in a variety of positions with Nalco Chemical Company, a global supplier of water, energy, and air improvement solutions. Mr. Beninati began his career in the military, serving five years as an officer in the U.S. Army.

Ray Kolberg became our Vice President and President—Catalysts in March 2019 and has served as the President of our Catalysts group since January 2016. From February 2012 through December 2015, Mr. Kolberg was Senior Vice President of Formulated Products for Momentive Performance Materials.

Kurt Bitting became Vice President and President—Refining Services in March 2019. From September 2017 until February 2019, Mr. Bitting served as PQ's Vice President—Refining Services and between May 2016, when he joined PQ as a result of the business combination with Eco Services, and August 2017, he was Business Director in the Refining Services business. Prior to joining PQ, Mr. Bitting held management positions at Kinder Morgan, Inc., Sprint Corporation, Solvay USA Inc. and Eco Services Operations LLC. As a Captain in the U.S. Army, Mr. Bitting served as a Company Commander in the 10th Mountain Division.

Joseph S. Koscinski became our Vice President, Secretary and General Counsel in November 2015. From August 1995 to October 2015, Mr. Koscinski was an attorney in the Business Services Group of Babst, Calland, Clements and Zomnir, P.C., a law firm in Pittsburgh, Pennsylvania, where he was named a shareholder in 2003 and where his corporate practice included mergers and acquisitions, real estate matters and commercial contracts. While in private practice, Mr. Koscinski served as outside corporate counsel to PQ Corporation since 2005.

William J. Sichko, Jr. became our Vice President, Chief Administrative Officer in 2005. Mr. Sichko served as our Secretary from 2005 to November 2015, and is currently an Assistant Secretary. From 1998 through 2005, Mr. Sichko was Chief Administrative Officer with Peak Investments, LLC. From 1991 through 1998, he held management positions with Harris Chemical Group and IMC Global following IMC Global's acquisition of Harris Chemical, including serving as Senior Vice President of Human Resources from 1996 to 1998. From 1987 to 1991, Mr. Sichko was a manager with General Chemical.

STOCKHOLDER INFORMATION

STOCK OWNERSHIP

The following table sets forth information regarding the beneficial ownership of our Common Stock as of March 3, 2020 by:

- each person or group of affiliated persons known by us to be the beneficial owner of more than 5% of our Common Stock;
- each of our named executive officers, directors and director nominees; and
- all of our directors, director nominees and executive officers as a group.

The percentage ownership information shown in the table below is based upon 136,790,094 shares of Common Stock outstanding as of March 3, 2020.

Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of more than 5% of our Common Stock. We have determined beneficial ownership in accordance with the rules of the Securities and Exchange Commission. These rules generally attribute beneficial ownership of shares to persons who possess sole or shared voting or investment power with respect to such shares. The information does not necessarily indicate beneficial ownership for any other purpose. Under these rules, the number of shares of Common Stock deemed outstanding includes shares issuable upon the exercise of options held by the respective person or group which may be exercised within 60 days after March 3, 2020. Such shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person or entity, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person or entity.

Unless otherwise indicated below, the address for each listed director, officer and stockholder is c/o PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355. The inclusion in the following table of those shares, however, does not constitute an admission that the named stockholder is a direct or indirect beneficial owner. Unless otherwise indicated and subject to applicable community property laws, to our knowledge, each stockholder named in the following table possesses sole voting and investment power over the shares listed, except for those jointly owned with that person's spouse.

Name	Number of Shares	Percentage
<i>Beneficial holders of 5% or more of our outstanding Common Stock:</i>		
CCMP Capital Investors III, L.P. and related investment funds ⁽¹⁾	61,962,767	38%
INEOS Limited ⁽²⁾	32,909,062	24%
<i>Directors and named executive officers:</i>		
Belgacem Chariag ⁽³⁾	165,082	*
Greg Brenneman ⁽⁴⁾	—	—
Timothy Walsh ⁽⁴⁾	—	—
Mark McFadden ⁽⁴⁾	—	—
Christopher Behrens ⁽⁴⁾	—	—
Robert Coxon ⁽⁵⁾	115,615	*
Andrew Currie ⁽⁶⁾	—	—
Jonny Ginns	23,811	*
Kyle Vann ⁽⁷⁾	117,012	*
Martin Craighead	56,934	*
Kimberly Ross	39,794	*

Name	Number of Shares	Percentage
Michael Crews ⁽⁸⁾	348,108	*
Scott Randolph ⁽⁹⁾	363,960	*
Ray Kolberg ⁽¹⁰⁾	106,461	*
Joseph Koscinski ⁽¹¹⁾	146,341	*
David J. Taylor ⁽¹²⁾	89,635	*
Paul Ferrall ⁽¹³⁾	836,811	*
All executive officers and directors as a group (20 persons) ⁽¹⁴⁾	4,627,044	3.39%

* Indicates less than 1%

- (1) Includes 29,370,897 shares of our Common Stock held by CCMP Capital Investors III, L.P. ("CCMP Capital Investors"), 2,977,037 shares of our Common Stock held by CCMP Capital Investors III (Employee), L.P. ("CCMP Employee"), 8,954,565 shares of our Common Stock held by CCMP Capital Investors III (AV-7), L.P. ("CCMP AV-7"), 506,610 shares of our Common Stock held by CCMP Capital Investors III (AV-8), L.P. ("CCMP AV-8"), 10,127,880 shares of our Common Stock held by CCMP Capital Investors III (AV-9), L.P. ("CCMP AV-9"), 663,600 shares of our Common Stock held by CCMP Capital Investors III (AV-10), L.P. ("CCMP AV-10" and, together with CCMP Capital Investors, CCMP Employee, CCMP AV-7, CCMP AV-8 and CCMP AV-9, the "CCMP Capital Funds") and 9,362,178 shares of our Common Stock held by Quartz Co-Invest, L.P. ("Quartz" and, together with the CCMP Capital Funds, the "CCMP Investors"). The general partner of the CCMP Capital Funds is CCMP Capital Associates III, L.P. ("CCMP Capital Associates"). The general partner of CCMP Capital Associates is CCMP Capital Associates III GP, LLC ("CCMP Capital Associates GP"). The general partner of Quartz is CCMP Co-Invest III A GP, LLC ("CCMP Co-Invest GP"). CCMP Capital Associates GP and CCMP Co-Invest GP are each wholly owned by CCMP Capital, LP. The general partner of CCMP Capital, LP is CCMP Capital GP, LLC ("CCMP Capital GP"). CCMP Capital GP ultimately exercises voting and investment power over the shares of our Common Stock held by the CCMP Investors. As a result, CCMP Capital GP may be deemed to share beneficial ownership with respect to the shares of our Common Stock held by the CCMP Investors. The investment committee of CCMP Capital GP with respect to the shares of our Common Stock consists of Greg Brenneman, Timothy Walsh, Mark McFadden, Kevin O'Brien, Joseph Scharfenberger and Richard Zannino. Messrs. Brenneman, Walsh and McFadden each serve as a director of the Company. Each of the CCMP entities has an address of c/o CCMP Capital Advisors, LP, 277 Park Avenue, New York, New York 10172.
- (2) The shareholders of INEOS Limited are James A. Ratcliffe, John Reece and Andrew Currie. Mr. Ratcliffe, as the majority owner of INEOS Limited, has the power to control the voting and disposition of the shares of our Common Stock held by INEOS Limited. The address of INEOS Limited is 38 Hans Cres, Knightsbridge, London SW1X 0LZ, United Kingdom.
- (3) Includes 120,658 shares of our Common Stock that can be acquired upon the exercise of outstanding options.
- (4) Does not include shares of our Common Stock held by the CCMP Investors. The address of each of Messrs. Brenneman, McFadden, Behrens and Walsh is c/o CCMP Capital Advisors, LP, 277 Park Avenue, New York, New York 10172.
- (5) Includes 25,476 shares of our restricted Common Stock subject to vesting conditions.
- (6) Does not include shares of our Common Stock held by INEOS Limited.
- (7) Includes 30,472 shares of our Common Stock that can be acquired upon the exercise of outstanding options.
- (8) Includes 168,986 shares of our Common Stock that can be acquired upon the exercise of outstanding options, 12,945 shares of our restricted Common Stock subject to vesting conditions held by Mr. Crews, and 28,005 shares of our Common Stock held by a revocable trust for which Mr. Crews is the grantor.
- (9) Includes 189,492 shares of our Common Stock that can be acquired upon the exercise of outstanding options, 30,334 shares of our Common Stock held by a revocable trust for which Mr. Randolph is the grantor, and 30,334 shares of our Common Stock held by an investment corporation controlled by Mr. Randolph.
- (10) Includes 85,432 shares of our Common Stock that can be acquired upon the exercise of outstanding options.
- (11) Includes 63,230 shares of our Common Stock that can be acquired upon the exercise of outstanding options.
- (12) Includes 37,174 shares of our Common Stock that can be acquired upon the exercise of outstanding options.
- (13) Includes 189,492 shares of our Common Stock that can be acquired upon the exercise of outstanding options and 84,903 shares of our restricted Common Stock subject to vesting conditions held by Mr. Ferrall.
- (14) Includes 777,767 shares of our Common Stock that can be acquired upon the exercise of outstanding options and 547,839 shares of our restricted Common Stock subject to vesting conditions.

TRANSACTIONS WITH RELATED PERSONS

Amended and Restated Stockholders Agreement

In May 2016 we entered into an amended and restated stockholders agreement with certain of our stockholders, including investment funds affiliated with CCMP, INEOS, our directors and officers who hold shares of our Common Stock and certain other investors. In connection with our initial public offering, the stockholders agreement was further amended and restated.

The stockholders agreement, as amended and restated, provides affiliates of CCMP with certain demand registration rights, including shelf registration rights, in respect of shares of our Common Stock held by them and also provides that, in the event that we register additional shares of our Common Stock for sale to the public, we will be required to give notice of such registration to such affiliates of CCMP and certain other stockholders, and, subject to certain limitations, include shares of our Common Stock held by them in such registration. In addition, we will be required to bear the registration expenses, other than underwriting discounts and commissions and transfer taxes, associated with any registration of shares described above and to indemnify such stockholders and certain other persons against certain liabilities that may arise under the Securities Act in connection with any such offering and sale of our shares.

Transactions with Affiliates of INEOS

As described in Note 27 to the audited consolidated financial statements in our Form 10-K for the fiscal year ended December 31, 2019, we entered into certain product purchase and sale transactions with affiliates of INEOS during fiscal year 2019. We had sales of \$4,841,000 to companies affiliated with INEOS during the fiscal year ended December 31, 2019 and purchases of raw materials of \$1,203,000 during the fiscal year ended December 31, 2019. In October 2019, our subsidiary PQ Corporation and an affiliate of INEOS also entered into a Supply and Distribution Agreement pursuant to which we will, on an arms-length basis, purchase and distribute certain INEOS catalyst products over a five-year period. All of such transactions with the affiliates of INEOS were approved by our Nominating and Corporate Governance Committee pursuant to the policies and procedures described below.

Policies and Procedures for Related Party Transactions

Our Board has adopted a policy with respect to the review, approval and ratification of related party transactions. Under the policy, the Nominating and Corporate Governance Committee is responsible for reviewing and approving related party transactions. The policy applies to transactions, arrangements and relationships (including any indebtedness or guarantee of indebtedness) or any series of similar transactions, arrangements or relationships in which the aggregate amount involved will, or may be expected to, exceed \$120,000 with respect to any fiscal year, and where we (or one of our subsidiaries) are a participant and in which a related party has or will have a direct or indirect material interest. In the course of reviewing potential related party transactions, the Nominating and Corporate Governance Committee will consider the nature of the related party's interest in the transaction; the presence of standard prices, rates or charges or terms otherwise consistent with arms-length dealings with unrelated third parties; the materiality of the transaction to each party; the reasons for the Company entering into the transaction with the related party; the potential effect of the transaction on the status of a director as an independent, outside or disinterested director or committee member; and any other factors the Nominating and Corporate Governance Committee may deem relevant.

EXECUTIVE COMPENSATION

REPORT OF THE COMPENSATION COMMITTEE

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis section set forth below with our management. Based on this review and discussion, the Compensation Committee recommended to our Board that the Compensation Discussion and Analysis section be included in this Proxy Statement, which will be incorporated by reference in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

Respectfully submitted by the Compensation Committee of our Board

Timothy Walsh, Chair

Andrew Currie

Kyle Vann

COMPENSATION DISCUSSION AND ANALYSIS

Introduction

This section discusses the principles underlying the material components of our executive compensation program for our executive officers who are named in the Summary Compensation Table and the factors relevant to an analysis of our executive compensation policies and decisions. For the year ended December 31, 2019, our named executive officers included our principal executive officer, our principal financial officer, and our next three most highly compensated executive officers. Messrs. Taylor and Ferrall, who are also included as our named executive officers for the year ended December 31, 2019 as required by SEC rules, served as executive officers for part of 2019, but were not serving in that capacity on the last day of our fiscal year, December 31, 2019.

Executive	Title
Belgacem Chariag	Chairman, President and Chief Executive Officer
Michael Crews	Executive Vice President and Chief Financial Officer
Scott Randolph	Vice President and President — Performance Materials
Ray Kolberg	Vice President and President — Catalysts
Joseph S. Koscinski	Vice President, Secretary and General Counsel
David J. Taylor⁽¹⁾	Vice President and President —Performance Chemicals
Paul Ferrall⁽²⁾	Senior Vice President Business Development

(1) Mr. Taylor resigned from the Company effective October 31, 2019

(2) Mr. Ferrall ceased to be an executive officer of the Company on March 1, 2019, and retired from the Company effective December 31, 2019

Executive Summary

2019 Compensation Decisions

In 2019, the Compensation Committee established an annual long-term equity based incentive award program that includes annual grants of performance vesting equity awards, in the form of performance share units (PSUs), in addition to time vesting equity awards, in the form of restricted stock units (RSUs).

Prior to 2019, we did not have a practice of making annual grants, and the awards granted to our named executive officers at the time of our initial public offering were only subject to time vesting conditions in order to promote retention. We did not make any equity grants to our named executive officers in 2018, with the exception of the new hire grants made to secure the services of Mr. Chariag, who joined the Company in August of 2018.

Our annual long-term equity based incentive award program, and the equity awards we granted to our named executive officers in 2019 and 2020 are discussed further below.

In 2019 no changes were made to the base salary or annual performance incentive opportunity of our named executive officers, although the Compensation Committee did approve base salary changes for 2020, as discussed below.

Corporate Governance and Best Practices

What We Do	
Pay for performance	Consistent with our goal of creating a performance-oriented environment, a substantial portion of executive pay is based on the achievement of specific strategic and financial goals or the performance of our Common Stock. Our “pay for performance” culture was further strengthened with the use of PSUs starting in 2019.
Stock ownership guidelines	Our Chief Executive Officer must hold shares of our Common Stock having a value of at least 5X base salary, and the other named executive officers must hold shares of our Common Stock having a value of at least 3X base salary. Our named executive officers have five years to comply with our stock ownership guidelines and are required to retain at least 50% of the after-tax shares received from equity awards until the required ownership levels are achieved.
Clawback	Our named executive officers, in certain circumstances, would be required to return the value of equity awards if our financial statements are restated as a result of their wrongdoing. Additionally, our named executive officers would be required to return any gain received in connection with the exercise, vesting, payment or other realization of income related to an equity award in the event of a breach of any non-solicitation, non-interference or confidentiality obligations or violation of our Code of Conduct.
Independent Compensation Consultant	The Compensation Committee retains an independent compensation consultant that provides no other services to the Company.

What We Don't Do	
No rich supplemental retirement plan benefits are offered	We provide a modest supplemental retirement opportunity tied to the statutory caps in our 401(k) plan.
No change in control excise tax gross ups	In accordance with good governance best practices, we provide no change in control excise tax gross-ups.
No short-term trading, short sales, hedging or pledging	As part of our policy on insider trading and communications with the public, all of our employees, including our named executive officers, as well as our directors and consultants, are prohibited from engaging in speculative transactions in our stock, including short sales, puts/calls, hedging transactions and margin accounts or pledges.
No annual incentives for named executive officers not funded by financial performance	Minimum financial hurdles must be satisfied before our named executive officers can earn any annual incentive compensation.

Say on Pay Advisory Vote

The Compensation Committee takes seriously the ability of stockholders to weigh in on our compensation decisions through an annual “say on pay” advisory vote.

At the May 2, 2019 Annual Meeting of Stockholders, stockholders approved, on an advisory basis, the compensation paid by us to our named executive officers. Approval was secured by 96 percent of the votes cast.

This year, we are again asking stockholders to consider our executive compensation program and provide us with a favorable advisory vote on the compensation for our named executive officers.

Executive Compensation Program Philosophy and Overview

Our executive compensation philosophy is to provide compensation that:

- Aligns the interests of our named executive officers with our stockholders' interests by rewarding performance that is tied to creating shareholder value; and
- Provides an amount and mix of total compensation for each of our named executive officers that we believe is competitive.

We seek to implement our pay philosophy by providing a total compensation package that includes three main components: base salary, annual performance-based bonus and long-term equity-based awards. The Compensation Committee takes into account individual performance and competitive market practice in determining the compensation package for each named executive officer. A compensation peer group has been formed with the assistance of our independent compensation consultant, and this peer group is referenced in the discussion below. We utilized the peer group as a tool in making compensation decisions for 2019, and we expect to continue to utilize one when making compensation decisions going forward.

Base salary has been set with a view toward attracting and retaining executive officer talent.

Our annual incentive plan (the "PQIP") is a broad-based plan under which annual performance-based cash opportunities are awarded to our named executive officers and other employees, and which, for 2019, paid based on the achievement of annual adjusted EBITDA, adjusted free cash flow, safety and pricing goals.

Our long-term equity-based awards consist of stock options, restricted stock units that are subject to time vesting conditions, and performance share units ("PSUs"). The PSUs granted in 2019 were tied to both adjusted free cash flow goals, and goals related to return on average net tangible assets ("ROANTA"). In 2020, one-half of the PSUs granted were based on goals related to total shareholder return ("TSR") over a three- year performance period. One-half of the PSUs granted were based on goals related to ROANTA over the three-year performance period.

Each of these elements of compensation is discussed in more detail below.

We believe that our executive compensation program is strongly aligned with the interests of our stockholders:

- By providing a substantial portion of our named executive officers' total compensation package in the form of equity-based awards, we have emphasized variable pay over fixed pay, strengthening the alignment between our named executive officers and our shareholders by creating an incentive to build shareholder value over the long-term.
- Our PSUs are earned based on the achievement of performance goals designed to directly focus our named executive officers on the achievement of share value creation.
- Our annual performance-based bonus is contingent upon the achievement of financial performance and qualitative goals. The amount of bonus compensation ultimately received varies with our annual financial performance, thereby providing an additional incentive to maximize shareholder value.

We will continue to promote share ownership and a strong pay-for-performance culture. We believe that this philosophy has been successful in motivating, retaining and incentivizing our named executive officers and providing value to our stockholders.

Compensation Decision Making Process

Role of the Compensation Committee and Management

Our executive compensation program is determined and approved by the Compensation Committee. During 2019, the Compensation Committee was responsible for the oversight, implementation and administration of all our executive compensation plans and programs. None of the named executive officers had any role in approving the compensation of the other named executive officers. However, the Compensation Committee does consider the recommendations of our Chairman, President and Chief Executive Officer in setting compensation levels for our named executive officers other than himself. The Compensation Committee solely determined the compensation of our Chairman, President and Chief Executive Officer.

On an annual basis, the Compensation Committee reviews compensation for our named executive officers in conjunction with performance evaluations, salary increase recommendations, determination of bonus payouts and deliberations regarding long-term incentive grants. The Compensation Committee has conducted and plans to continue to conduct annual reviews of our executive compensation program to ensure its continued alignment with our compensation philosophy. The Compensation Committee will continue to make decisions taking into account good governance practices regarding compensation, including reliance on market data for the chemical and specialty chemical industries and the other considerations described in this Compensation Discussion and Analysis.

Compensation Consultant; Review of Relevant Compensation Data

The Compensation Committee engaged WealthPoint, LLC ("WealthPoint") as the independent advisor to the Compensation Committee in 2019. WealthPoint reviewed the Company's overall executive compensation program in comparison to comparably-sized public companies in industries similar to the Company's. In addition, WealthPoint advised the Compensation Committee on the appropriate mix of compensation components for compensating our executive officers, and advised the Compensation Committee on matters relating to our executive officers' performance-based compensation, including the introduction of PSUs in 2019, and the use of TSR as a PSU metric in 2020. WealthPoint did not provide any other services to the Company or our management or have any other direct or indirect business relationships with the Company or our management. The Compensation Committee has assessed the independence of WealthPoint and concluded that its work for the Compensation Committee in 2019 did not raise any conflicts of interest.

Compensation Peer Group Data and Pay Mix

The Compensation Committee has identified a peer group of companies to be used for purposes of assessing market levels of compensation. For 2019, with the assistance of WealthPoint, the Compensation Committee reviewed the compensation peer group used to set 2018 compensation to determine its continued appropriateness and elected to keep the peer group intact. The companies below were selected as the peer group because they are in the chemical and specialty chemical space and generally have revenues ranging from approximately 50% to 200% of the Company's revenues.

Albermarle Corporation	International Flavors & Fragrances, Inc.	A. Schulman, Inc.
Cabot Corporation	Kraton Corporation	Sensient Technologies Corporation
FMC Corporation	Minerals Technologies, Inc.	Stepan Company
GCP Applied Technologies, Inc.	MPM Holdings, Inc.	W.R. Grace & Co.
H.B. Fuller Company	Element Solutions, Inc. ¹	Westlake Chemical Corporation
Innophos Holdings, Inc.	PolyOne Corporation	
Innospec, Inc.	Quaker Chemical Corporation	

(1) Effective February 1, 2019, Platform Specialty Products Corporation changed its name to Element Solutions, Inc.

In 2019, the Compensation Committee reviewed competitive compensation practices, including peer group compensation data and a variety of other factors, to confirm that the structure of our cash compensation and equity-based awards was

consistent with our compensation philosophy and market practice. As a result of that review in 2019, the Compensation Committee determined to add PSUs to the annual long-term equity based incentive mix, along with time vesting RSUs. In addition, the Compensation Committee used the peer group data provided by WealthPoint in order to determine the appropriate mix between cash compensation and equity-based awards.

Elements of Compensation in 2019

For 2019, our compensation program for the named executive officers consisted of, in whole or part:

- Base salary;
- Annual performance-based cash awards;
- Long-term equity incentive awards; and
- Other benefits (retirement, health, perquisites, etc.).

Base Salary

We provide an annual base salary to our named executive officers to induce talented executives to join or remain with our Company, to compensate them for their services during the year and to provide them with a stable source of income.

The base salary levels of our named executive officers are reviewed annually by the Compensation Committee to determine whether an adjustment is warranted. The Compensation Committee may take into account numerous factors in making its base salary determinations, none of which are dispositive or individually weighted, including our financial performance, the state of our industry and the local economies in which we operate, the named executive officer's relative importance and responsibilities, the named executive officer's performance and periodic reference to comparable salaries paid to other executives of similar experience in our industry in general, based on the Compensation Committee's expertise as well as market data drawn from our peer group, referenced above.

The annual base salaries paid to our named executive officers for the years ended December 31, 2018 and 2019 are reported below. No change in base salaries was made for 2019. Where a change in base salary was made mid-year or the executive officer was hired mid-year, the actual base salary paid to those named executive officers who were then employed as reflected in the Summary Compensation Table is different than the amounts reported below.

2018 and 2019 Annualized Base Salary

Executive	2018	2019
Belgacem Chariag⁽¹⁾	\$880,000	\$880,000
Michael Crews	\$480,000	\$480,000
Scott Randolph	\$480,000	\$480,000
Ray Kolberg	\$425,000	\$425,000
Joseph S. Koscinski	\$400,000	\$400,000
David J. Taylor⁽²⁾	\$480,000	\$480,000
Paul Ferrall⁽³⁾	\$480,000	\$480,000

(1) Mr. Chariag joined the Company on August 9, 2018.

(2) Mr. Taylor resigned from the Company effective October 31, 2019.

(3) Mr. Ferrall retired from the Company effective December 31, 2019

2020 Base Salary Changes

In December 2019 the Compensation Committee determined to make certain changes to the base salaries of each of our currently employed named executive officers effective beginning in 2020. The decision to do so was based on current market data, performance of the incumbents, and the fact that base salary had not been adjusted for the named executive officers since 2017 (and for Messrs. Chariag, and Kolberg since their dates of hire, 2018 and 2016 respectively). The decision to provide an increase to Mr. Chariag also took into account his position as Chairman of the Board. The changes to base salaries were as follows:

2019 and 2020 Annualized Base Salary

Executive	2019	2020
Belgacem Chariag	\$880,000	\$960,000
Michael Crews	\$480,000	\$505,000
Scott Randolph	\$480,000	\$495,000
Ray Kolberg	\$425,000	\$450,000
Joseph S. Koscinski	\$400,000	\$425,000

Annual Performance-Based Cash Awards – The PQIP

We provide our named executive officers with annual performance-based cash award opportunities linked to our annual financial and operational performance. For 2019, the Compensation Committee chose four performance metrics, the achievement of which would determine the amount of annual cash awards paid to our named executive officers. In addition to the three factors utilized for the 2018 PQIP, a product pricing metric was added for 2019. The performance metrics, along with the reasons the Compensation Committee chose each of them for purposes of the 2019 PQIP, are outlined in the tables below.

Factor	Weight
Adjusted EBITDA	50%
Adjusted Free Cash Flow	20%
Safety	15%
Pricing	15%

Metric/Goal	Reason for inclusion in the PQIP
Adjusted EBITDA	Adjusted EBITDA is the most significant indicator of operating performance. Improvements in operating performance are directly linked to sustainable share value creation. The threshold Adjusted EBITDA goal must be attained for payouts under any of the four goals.
Adjusted Free Cash Flow	Adjusted free cash flow is an important indicator of operating efficiency (e.g., the ability to increase margins by careful management of operating expenses) and management of capital expenditures. Improvements in adjusted free cash flow also equip the Company to pursue new opportunities. Increased operating efficiency and the successful pursuit of new opportunities lead to share value creation.
Safety	There is a direct link between an improving safety record, higher worker productivity and sustained share value creation.
Pricing	Effective product pricing over time results in increasing margins and sustained share value creation.

Metric/Goal	Definition
Adjusted EBITDA	EBITDA consists of net income (loss) attributable to the Company before interest, taxes, depreciation and amortization. Adjusted EBITDA consists of EBITDA adjusted for (i) non-operating income or expense, (ii) the impact of certain non-cash, nonrecurring or other items included in net income (loss) and EBITDA that we do not consider indicative of our ongoing operating performance, and (iii) depreciation, amortization and interest of our 50% share of the Zeolyst Joint Venture.
Adjusted Free Cash Flow	Adjusted free cash flow consists of cash flow from operating activities less purchases of property, plant and equipment plus proceeds from asset sales plus net interest proceeds on cross-currency swaps.
Safety	Recordable rate of safety incidents, which is a standardized measure of OSHA-recordable injury or illness.
Pricing	The achievement of targeted product price increases by business segment.

Adjusted EBITDA and Adjusted Free Cash Flow are non-GAAP financial metrics. An explanation of how we calculate these metrics is contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 filed with the Securities and Exchange Commission.

The target annual performance-based cash award opportunity for each eligible executive was set as a percentage of base salary (i.e., actual base salary paid during 2019). The target award percentages for each of our named executive officers remained the same for 2019 as in 2018. For 2019, the target award percentages were as follows:

Executive	FYE Target Award
Belgacem Chariag	100%
Michael Crews	75%
Scott Randolph	75%
Ray Kolberg	75%
Joseph S. Koscinski	55%
David J. Taylor	75%
Paul Ferrall	75%

For 2019, the PQIP was structured to pay for achieving goals related to each of the four performance metrics:

Category	Weight	Scale	Threshold	Target	Maximum
Adjusted EBITDA	50%	Performance as a percent of target	95.67%	100%	102.88%
		Percentage of target bonus earned	25%	100%	200%
Adjusted Free Cash Flow	20%	Performance as a percent of target	85.92%	100%	110.56%
		Percentage of target bonus earned	25%	100%	200%
Safety	15%	Performance as a percent of target	81.5%	100%	136%
		Percentage of target bonus earned	25%	100%	200%
Pricing	15%	Performance as a percent of target	84.8%	100%	115.1%
		Percentage of target bonus earned	25%	100%	200%

The level of performance actually achieved on a Company-wide basis for 2019 in each of the four categories was as follows:

	(Thousands)		
Measurement Category	Target	Actual	Achievement As a % of Target
Adjusted EBITDA ⁽¹⁾	\$486,000	\$474,918	97.7%
Adjusted Free Cash Flow	\$142,000	\$166,800	117.5%
Safety ⁽²⁾	0.53	0.59	89.8%
Pricing	\$ 66,000	\$ 89,800	136.1%

(1) Represents Adjusted EBITDA as defined by the PQIP, which differs from Adjusted EBITDA that was reported in our 2019 results due to the exclusion of certain reductions in expense that resulted from financial results below the PQ Group Holdings level that were below target.

(2) Based on recordable rate of safety incidents.

All of the named executive officers' annual bonuses were determined based on the Company-wide adjusted EBITDA goals and Company-wide cash flow goals, referenced above. In addition, Messrs. Chariag, Crews, Koscinski, and Ferrall's annual bonuses were determined based on the Company-wide safety and pricing goals referenced above.

Annual bonuses for Messrs. Randolph, Kolberg and Taylor were determined based on business unit safety and pricing goals specific to the business units they manage as set forth in the table below.

	(Thousands)			
Executive/Business Unit	Measurement Category	Target	Actual	Achievement As a % of Target
Scott Randolph	Safety ⁽¹⁾	8	9	88.9%
Performance Materials	Pricing	\$15,500	\$25,100	161.9%
Ray Kolberg	Safety ⁽¹⁾	1	4	25%
Catalysts	Pricing	\$2,500	\$7,100	184%
David J. Taylor	Safety ⁽¹⁾	5	8	62.5%
Performance Chemicals	Pricing	\$29,000	\$27,000	94.8%

(1) Represents number of safety incidents.

The actual bonus earned by each of the named executive officers for 2019 was as follows:

	(Thousands)				
Executive	Adjusted EBITDA	Adjusted Free Cash Flow	Safety	Pricing	Total PQIP Earned
Belgacem Chariag	\$266,555	\$352,000	\$82,500	\$264,000	\$965,055
Michael Crews	\$109,045	\$144,000	\$33,750	\$108,000	\$394,795
Scott Randolph	\$109,045	\$144,000	\$13,500	\$108,000	\$374,545
Ray Kolberg	\$ 96,555	\$127,500	\$ 0	\$ 95,625	\$319,675
Joseph S. Koscinski	\$ 66,639	\$ 88,000	\$20,625	\$ 66,000	\$241,264
David J. Taylor⁽¹⁾	\$ 81,784	\$108,000	\$ 0	\$ 31,388	\$221,171
Paul Ferrall⁽²⁾	\$109,045	\$144,000	\$33,750	\$108,000	\$394,795

(1) Mr. Taylor was paid the pro rata portion (10/12^{ths}) he earned under the 2019 PQIP based on actual performance, as provided by his transition and general release agreement with the Company, discussed below.

(2) Mr. Ferrall was paid the full amount he earned under the 2019 PQIP based on actual performance and without proration, as provided by his transition and general release agreement with the Company, discussed below.

1 BOARD OF DIRECTORS	2 CORPORATE GOVERNANCE	3 EXECUTIVE OFFICERS	4 STOCKHOLDER INFORMATION	5 EXECUTIVE COMPENSATION	6 AUDIT COMMITTEE MATTERS	7 2017 PLAN AMENDMENT	8 OTHER INFORMATION
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2020 PQIP Metrics

The Compensation Committee set the 2020 PQIP metrics in December of 2019. The metrics are weighted as follows:

Factor	Weight
Adjusted EBITDA	60%
Adjusted Free Cash Flow	20%
Safety	20%

Long-Term Equity Based Incentive Awards

Since the time of our initial public offering, all of our equity-based awards have been granted under the 2017 Plan. Those awards have included time vesting restricted stock units, time vesting stock options, and PSUs tied to both financial performance and Total Shareholder Return (“TSR”) goals.

The 2019, the long-term equity based incentive awards we granted to our named executive officers included a mix of time vesting RSUs and PSUs. The number of PSUs eligible to be earned is tied to the achievement of Adjusted Free Cash Flow and ROANTA targets over the three-year performance period ending December 31, 2021.

In 2020, the long-term equity based incentive awards we granted to our named executive officers were also comprised of time vesting RSUs as well as PSUs. The number of PSUs eligible to be earned is tied to the achievement of ROANTA targets as well as TSR performance over the three-year performance period ending December 31, 2022.

Each of our named executive officers, other than Messrs. Chariag, Taylor and Koscinski, continue to hold performance vesting equity awards granted prior to our initial public offering, which were granted under the PQ Group Holdings, Inc. Stock Incentive Plan (“SIP”). The performance-based stock options and performance-based restricted shares currently outstanding are all unvested and will vest only on the achievement with respect to shares of our Common Stock of an average closing trading price equal or exceeding, in any ten trading day period, the lowest amount which, when multiplied by the number of shares of our Common Stock then held by investment funds affiliated with CCMP and added to the aggregate net proceeds received by investment funds affiliated with CCMP with respect to their shares of capital stock of the Company, would yield a quotient of equal or greater than two when divided by the equity investment in the Company by investment funds affiliated with CCMP. The quotient described above is referred to in this Compensation Discussion and Analysis as the “MOI Target.” As of December 31, 2019, none of the performance-based stock options and performance-based restricted shares granted prior to our initial public offering had vested based on achievement of the MOI Target.

As part of this Proxy Solicitation, we are asking shareholders to approve an Amendment and Restatement of the 2017 Plan, as well as replenishment of our equity pool. This request is discussed in more detail, below.

Grants in 2019

In 2019, the Compensation Committee determined to return to a cadence of annual long-term equity incentive awards to its named executive officers, after the awards made in conjunction with its initial public offering. The Company made the 2019 grant on March 11, 2019. The equity incentive awards were in the form of RSUs and PSUs. One third of the RSUs will vest on each of January 5, 2020, January 5, 2021 and January 5, 2022, generally subject to continued service. PSUs will be earned subject to the achievement of performance goals related to three-year average ROANTA and three-year average adjusted free cash flow over a performance period which commenced January 1, 2019 and which ends December 31, 2021. Depending on progress against performance goals, an amount ranging from 0% to 200% of target PSUs granted may actually be earned. The PSUs actually earned will be determined on the date the Compensation Committee certifies the level of achievement of the various performance measures, but no later than 60 days after the end of the three-year performance period. In order to be eligible to earn all awarded PSUs, a participant generally must continue to provide services until the end of the performance period. The grants made to our named executive officers on March 11, 2019 were as follows:

Name	Number of PSUs Granted at Target	Number of RSUs Granted	Total Value of Grant
Belgacem Chariag	142,765	85,658	\$3,519,998
Michael Crews	48,670	48,669	\$1,499,994
Scott Randolph	32,447	32,446	\$1,000,001
Ray Kolberg	24,335	24,335	\$ 750,004
Joseph S. Koscinski	24,335	24,335	\$ 750,004
David J. Taylor	32,447	32,446	\$1,000,001
Paul Ferrall	19,468	19,468	\$ 600,004

Grants in 2020

In 2020, the Compensation Committee determined that it was advisable to make another grant of long-term equity incentive awards to its named executive officers, and did so on January 20, 2020. The equity incentive awards were in the form of RSUs and PSUs. One third of the RSU awards will vest on each of January 20, 2021, January 20, 2022 and January 20, 2023, generally subject to continued service. Fifty percent of target PSUs will be earned subject to the achievement of performance goals related to three-year average ROANTA and fifty percent of target PSUs will be earned depending on relative TSR performance against companies in the Russell 2000 Index. Both ROANTA performance and TSR performance will be measured over a performance period which commenced January 1, 2020 and which ends December 31, 2022. Depending on progress against performance goals, an amount ranging from 0% to 200% of target PSUs granted may actually be earned. The PSUs actually earned will be determined on the date the Compensation Committee certifies the level of achievement of the various performance measures, but no later than 60 days after the end of the three-year performance period. In order to be eligible to earn all awarded PSUs, a participant generally must continue to provide services until the end of the performance period. The grants made to our named executive officers on January 20, 2020 were as follows:

Name	Number of PSUs Granted at Target	Number of RSUs Granted	Total Value of Grant
Belgacem Chariag	120,084	120,084	\$3,999,998
Michael Crews	37,526	37,526	\$1,250,008
Scott Randolph	27,019	27,019	\$ 900,003
Ray Kolberg	22,516	22,516	\$ 750,008
Joseph S. Koscinski	22,516	22,516	\$ 750,008
David J. Taylor ⁽¹⁾	—	—	—
Paul Ferrall ⁽²⁾	—	—	—

(1) No equity awards were granted in 2020 to Mr. Taylor, who resigned from the Company effective October 31, 2019.

(2) No equity awards were granted in 2020 to Mr. Ferrall, who ceased to be an executive officer of the Company on March 1, 2019, and retired from the Company effective December 31, 2019.

Other Elements of Compensation

Additional Executive Benefits and Perquisites

We provide our named executive officers with certain executive benefits that the Compensation Committee believes are reasonable and in the best interests of the Company and our stockholders. To the extent our named executive officers received these benefits in 2019, they are described in the footnotes to our 2019 Summary Compensation Table below. Consistent with our compensation philosophy, we currently intend to continue to maintain our current benefits for our named

executive officers, including life insurance, relocation assistance, and the other benefits described below. The Compensation Committee, in its discretion, may revise, amend or add to a named executive officer's executive benefits if it deems it advisable. We believe these benefits are generally equivalent to benefits provided by comparable companies based on our experience and knowledge of general industry practices.

Health and Welfare Benefits

Our named executive officers have the option to participate in various employee welfare benefit programs, including medical, dental and life insurance benefits. These benefit programs are generally available to all employees.

Relocation Assistance

The Company's business needs require it on occasion to relocate certain employees. To meet this need, we may, on a case by case basis, pay or reimburse certain relocation-related expenses, including temporary housing, living and travel expenses that are incurred by our employees, including our named executive officers.

Severance and Change in Control Benefits

Each of our named executive officers is (or in the case of Messrs. Taylor and Ferrall, was) party to a severance agreement or letter agreement with us that provides them with severance protections and benefits in the event of certain qualifying terminations of their employment.

On December 11, 2019, the Compensation Committee approved the PQ Corporation Severance Policy, effective January 1, 2020. It is intended that named executive officers of the Company be covered by this Severance Policy in the future, unless they are already covered under one of the severance agreements referred to above.

The material terms of the severance and letter agreements with our named executive officers and the Severance Policy are described below under "Potential Payments Upon Termination or Change in Control—Severance Agreements."

Transition and General Release Agreement with Mr. Taylor

On November 15, 2019, we entered into a transition and general release agreement with Mr. Taylor in connection with his resignation from employment with the Company effective on October 31, 2019. Under the agreement, Mr. Taylor agreed that he would be reasonably available to the Company and would perform services requested by the Company until January 31, 2020.

In consideration for entering into the transition and general release agreement, and Mr. Taylor's adherence to the promises contained in the agreement, which include Mr. Taylor's execution of a general release of claims in favor of the Company, restrictive covenants in favor of the Company, including noncompetition and nonsolicitation covenants by which Mr. Taylor is bound for a period of 24 months following his resignation date, and perpetual covenants relating to non-disparagement and confidentiality, and other terms and conditions, the Company agreed to pay Mr. Taylor the following:

- (i) For the 12-month period beginning on his resignation date of October 31, 2019 and continuing until October 31, 2020, Mr. Taylor will be paid an amount equal to his base salary of \$40,000 per month;
- (ii) Mr. Taylor will be eligible to earn a pro rata portion (10/12ths) of his target (75% of base pay) annual 2019 PQIP bonus, earned based on actual performance and that would have been payable to him had his employment not ended, in accordance with the terms of the PQIP; and
- (iii) The Company's continued payment of its share of the premium costs for Mr. Taylor's continued participation under COBRA in the Company's health benefits through November 30, 2020, unless Mr. Taylor finds employment that offers individual medical coverage of any type or kind during that period, in which case the Company's payments will cease.

Any outstanding equity awards granted to Mr. Taylor were not modified by the agreement and, to the extent they remain outstanding, will remain subject to their existing terms.

Transition and General Release Agreement with Mr. Ferrall

On November 26, 2019, we entered into a transition and general release agreement with Mr. Ferrall, in connection with his termination of employment with the Company effective on December 31, 2019. Mr. Ferrall and the Company were parties to a severance agreement dated August 31, 2017, under which he was eligible to be paid certain compensation and benefits if he were terminated without cause or he terminated his employment for good reason. Mr. Ferrall was not terminated without cause and he did not terminate his employment for good reason; rather, the Company and Mr. Ferrall desired to amicably conclude their employment relationship and they did so by entering into the transition and general release agreement.

In consideration for entering into the transition and general release agreement, and Mr. Ferrall's adherence to the promises contained in the agreement, which include Mr. Ferrall's execution of a general release of claims in favor of the Company, restrictive covenants in favor of the Company, including noncompetition and nonsolicitation covenants by which Mr. Ferrall is bound for a period of 24 months following his retirement date, and perpetual covenants relating to non-disparagement and confidentiality, and other terms and conditions, the Company agreed to provide Mr. Ferrall with the following payments and benefits:

- (i) For the 18-month period beginning January 1, 2020 and continuing until June 30, 2021 the Company will continue to pay Mr. Ferrall an amount equal to his base salary of \$40,000 per month;
- (ii) Mr. Ferrall will be paid \$36,923, which represents the value of the 20 vacation days he would have received for 2020;
- (iii) Mr. Ferrall will be eligible to earn his target (75% of base pay) annual 2019 PQIP bonus, as earned based on actual performance and that would have been payable to him had his employment not ended, in accordance with the terms of the PQIP;
- (iv) The Company will pay Mr. Ferrall an additional \$180,000 after January 1, 2021, but on or before June 30, 2021, the exact date of payment to be determined by the Company; and
- (v) The Company will continue to pay its share of the premium cost of Mr. Ferrall's continued participation under COBRA in the Company's health benefits through June 30, 2021, unless Mr. Ferrall finds employment that offers individual coverage of any type or kind during that period, in which case the Company's payments will cease.

We also entered into a consulting agreement with Mr. Ferrall on November 26, 2019, with a term that began on January 1, 2020 and will continue until June 30, 2021, unless extended or terminated earlier in accordance with its terms. Under the terms of the consulting agreement, Mr. Ferrall will provide consulting services to the Company as and when requested, up to a certain limited amount, and for which he will be paid \$1,850.00 per day for days he performs services, as set forth in the agreement.

The agreement also provides that for the duration of the consulting agreement, Mr. Ferrall will continue to vest in his outstanding equity awards granted under the SIP and the 2017 Plan, which will remain outstanding subject to their existing terms.

Stock Ownership Guidelines for Executive Officers

Under our stock ownership guidelines, applicable to our executive officers and our non-employee directors, each of our named executive officers, other than our Chief Executive Officer, is expected to have ownership of our Common Stock in an amount equal to at least three times the named executive officer's annualized base salary, and our Chief Executive Officer is expected to have ownership of our Common Stock in an amount equal to at least five times his annualized base salary.

Executive officers subject to the guidelines have five years to achieve the required ownership levels and, until they satisfy their ownership requirements, are subject to a holding requirement with respect to 50% of the shares of Common Stock they acquire upon the vesting or exercise of their equity-based awards (on an after-tax basis).

The following table summarizes the ownership of our Common Stock as of December 31, 2019 by our named executive officers:

Name	Ownership Requirement Relative to Annualized Base Salary	Ownership relative to Annualized Base Salary ⁽¹⁾
Belgacem Chariag	5x	4.91x
Michael Crews	3x	13.32x
Scott Randolph	3x	29.58x
Ray Kolberg	3x	4.79x
Joseph S. Koscinski	3x	7.28x

(1) In accordance with our stock ownership guidelines, ownership amounts include shares of our Common Stock that have been gifted to irrevocable trusts, and have been determined based on a share price of \$16.04, which is the average closing price of our Common Stock on the New York Stock Exchange over the 90-day trading period prior to December 31, 2019.

Tax Considerations

Section 162(m) of the Internal Revenue Code (“Section 162(m)”) generally limits the deductibility of compensation paid to our named executive officers to \$1 million during any fiscal year. Prior to January 1, 2018, certain compensation that qualified as “performance-based” was exempted from the above deductibility limits under Section 162(m). However, the Tax Cuts and Jobs Act of 2017 generally eliminated the performance-based compensation exception, with certain limited grandfathering provisions.

Under a Section 162(m) transition rule for compensation plans or agreements of corporations which are privately held and which become publicly held in an initial public offering, compensation paid under a plan or agreement that existed prior to the initial public offering will not be subject to Section 162(m) for a transition period following the initial public offering (the “Post-IPO Transition Period”). The Amendment and Restatement of the 2017 Plan we are asking shareholders to approve as part of this Proxy Solicitation will end the Post-IPO Transition Period with respect to the 2017 Plan. The Compensation Committee believes that its primary responsibility is to provide a compensation program in accordance with its overall compensation philosophy and policies described above, and it retains flexibility to approve or amend compensation arrangements that may result in a loss of deductibility or may not be deductible in whole or in part under Section 162(m).

2019 Summary Compensation Table

The following table sets forth certain information with respect to compensation earned by or paid to our named executive officers for the year ended December 31, 2019, and where applicable, the years ending December 31, 2018 and December 31, 2017.

Name and Principal Position	Year	Salary (\$)	Bonus (\$) ⁽⁴⁾	Stock Awards (\$) ⁽⁵⁾	Option Awards (\$) ⁽⁵⁾	Non-Equity Incentive Plan Compensation (\$) ⁽⁶⁾	All Other Compensation (\$) ⁽⁷⁾	Total (\$)
Belgacem Chariag, <i>Chairman, President and Chief Executive Officer⁽¹⁾</i>	2019	880,000	—	3,519,998	—	965,055	98,470	5,463,523
	2018	347,536	—	1,320,008	1,319,999	250,865	22,353	3,260,761
Michael Crews, <i>EVP and Chief Financial Officer</i>	2019	480,000	—	1,499,994	—	394,795	35,486	2,410,275
	2018	480,000	—	—	—	259,862	47,138	787,000
	2017	438,750	—	1,880,004	442,511	205,664	62,549	3,029,478
Scott Randolph, <i>Vice President and President, Performance Materials</i>	2019	480,000	—	1,000,001	—	374,545	40,286	1,894,832
	2018	480,000	—	—	—	259,862	56,036	795,898
	2017	438,750	150,000	1,200,000	300,000	82,266	56,573	2,227,589
Ray Kolberg, <i>Vice President and President, Catalysts</i>	2019	425,000	—	750,004	—	319,675	37,248	1,531,927
	2018	425,000	—	—	—	245,319	40,035	710,354
	2017	425,000	—	750,006	554,892	318,750	59,137	2,107,785
Joseph S. Koscinski, <i>Vice President, Secretary, and General Counsel</i>	2019	400,000	—	750,004	—	241,264	60,999	1,452,267
	2018	400,000	—	—	—	158,805	49,152	607,957
	2017	370,000	—	1,200,000	283,829	127,188	33,950	2,014,967
David J. Taylor, <i>Vice President and President, Performance Chemicals⁽²⁾</i>	2019	400,000	—	1,000,001	—	221,171	545,500	2,166,672
	2018	460,000	—	—	—	232,432	30,433	722,865
	2017	133,333	—	1,200,000	300,000	45,833	4,289	1,683,455
Paul Ferrall, <i>Senior Vice President, Business Development⁽³⁾</i>	2019	480,000	—	600,004	—	394,795	1,002,649	2,477,448
	2018	480,000	—	—	—	259,862	55,389	795,251
	2017	438,750	—	1,200,000	300,000	329,063	59,529	2,327,342

- (1) Mr. Chariag joined the Company on August 9, 2018. His base salary and annual performance-based bonus for 2018 were prorated based on the number of days employed during 2018.
- (2) Mr. Taylor resigned from the Company effective October 31, 2019. His base salary and annual performance-based bonus for 2019 were prorated based on the number of days employed during 2019.
- (3) Mr. Ferrall retired from the Company effective December 31, 2019.
- (4) In 2017, a \$150,000 special bonus was awarded to Mr. Randolph for successfully integrating a prior acquisition.
- (5) The amounts shown reflect the aggregate grant date fair value of RSUs and PSUs granted to each of Messrs. Chariag, Crews, Randolph, Kolberg, Koscinski, Taylor and Ferrall in 2019, of time-based stock options and RSUs granted to Mr. Chariag in 2018, and of time-based stock options and RSUs granted to each of Messrs. Crews, Randolph, Kolberg, Koscinski, Taylor and Ferrall in 2017, computed in accordance with FASB ASC Topic 718, in each case, disregarding the effects of estimated forfeitures. These amounts reflect our cumulative accounting expense over the vesting period, disregarding the effects of estimated forfeitures, and do not correspond to the actual value that may be realized by the named executive officers. For information on the valuation assumptions made in the calculation of these amounts, refer to Note 22 to the audited consolidated financial statements in our Form 10-K for the fiscal year ended December 31, 2019, Note 22 to the audited consolidated financial statements in our Form 10-K for the fiscal year ended December 31, 2018 and Note 21 to the audited consolidated financial statements in our Form 10-K for the fiscal year ended December 31, 2017. With respect to the PSUs, the aggregate grant date fair value was determined based on the probable outcome of

the performance conditions associated with such awards at the date of grant. For PSUs, the aggregate grant date fair value of these awards assumes performance at 100% of target. The aggregate grant date fair value of the PSU awards assuming the maximum level of performance is achieved, is: Mr. Chariag's 2019 grant, \$4,400,018, Mr. Crews' 2019 grant, \$1,500,010, Mr. Randolph's 2019 grant, \$1,000,016; Mr. Kolberg's 2019 grant, \$750,004; Mr. Koscinski's 2019 grant, \$750,004; Mr. Taylor's 2019 grant, \$1,000,016; and Mr. Ferrall's 2019 grant, \$600,004.

- (6) The amounts reported in this column represent the annual cash performance-based bonuses earned by our named executive officers under the PQIP as a result of the achievement of certain Company performance objectives, as described above.
- (7) The amounts shown in the All Other Compensation column for 2019, 2018 and 2017 include the following:

Executive	Year	401(k) Plan Company Match (\$)	401(k) Plan Company 4% Contribution	PRA SERP Company Contribution (\$)	Tax Prep Services (\$)	Relocation Expenses (\$)	Life Insurance (\$)	Housing Allowance (\$)	Car Allowance (\$)	Severance (\$)
Belgacem Chariag	2019	—	11,200	34,035	—	—	2,388	45,813	5,034	—
	2018	—	—	—	—	—	597	18,344	3,412	—
Michael Crews	2019	3,600	11,200	18,394	—	—	2,292	—	—	—
	2018	8,250	11,000	16,427	—	—	2,292	9,169	—	—
	2017	8,100	10,800	22,869	—	19,556 ^(a)	1,224	—	—	—
Scott Randolph	2019	8,400	11,200	18,394	—	—	2,292	—	—	—
	2018	8,250	11,000	11,491	23,003	—	2,292	—	—	—
	2017	8,100	10,800	14,750	21,699	—	1,224	—	—	—
Ray Kolberg	2019	8,400	11,200	15,613	—	—	2,035	—	—	—
	2018	8,250	11,000	18,750	—	—	2,035	—	—	—
	2017	8,100	10,800	39,010	—	—	1,227	—	—	—
Joseph S. Koscinski	2019	8,400	11,200	11,152	—	—	1,915	28,332	—	—
	2018	8,250	—	10,088	—	—	1,915	17,899	—	—
	2017	8,100	10,800	14,013	—	—	1,037	—	—	—
David J. Taylor	2019	8,400	—	—	—	—	1,910	—	—	535,190 ^(b)
	2018	8,250	11,000	9,233	—	—	1,950	—	—	—
	2017	4,000	—	—	—	—	289	—	—	—
Paul Ferrall	2019	8,400	11,200	18,394	—	—	2,292	—	—	962,363 ^(c)
	2018	8,250	11,000	21,363	12,484	—	2,292	—	—	—
	2017	8,100	10,800	25,668	13,737	—	1,224	—	—	—

- (a) The amount reported includes a reimbursement for relocation expenses of \$13,607 plus a reimbursement of \$5,949 for income taxes owed with respect to such reimbursement.
- (b) The amount reported includes all of Mr. Taylor's severance benefits as outlined in his transition and general release agreement, including the ratable payment of continued annual base salary of \$40,000 per month from November 1, 2019 to October 31, 2020, the payment of accrued vacation, and the continuation of the Company's contributions for health benefits over the same period (based, for the purposes of valuation, on the Company's contribution rates on January 1, 2020 unless he becomes entitled to these benefits from a new employer. The continued payment over the period will be subject to Mr. Taylor's compliance with the restrictive covenants in his transition and general release agreement with the Company, described above.
- (c) The amount reported includes all of Mr. Ferrall's severance benefits as outlined in his transition and general release agreement, including the ratable payment of continued annual base salary of \$40,000 per month from January 1, 2020 to June 30, 2021, the payment of accrued vacation, the additional payment of \$180,000 after January 1, 2021 and on or before June 30, 2021, and the continuation of the Company's contributions for health benefits over the same period (based, for the purposes of valuation, on the Company's contribution rates in effect on January 1, 2020) unless he becomes entitled to these benefits from a new employer. The continued payment over the period will be subject to Mr. Ferrall's compliance with the restrictive covenants in his transition and general release agreement with the Company, described above.

2019 Grants of Plan-Based Awards

The following table summarizes plan-based awards granted to our named executive officers for the year ended December 31, 2019.

Name	Award	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards ⁽¹⁾			Estimated Future Payouts Under Equity Incentive Plan Awards (#) ⁽²⁾			All Other Stock Awards: # of Shares of Stock or Units (#) ⁽³⁾	Grant Date Fair Value of Stock and Option Awards (\$) ⁽⁴⁾
			Threshold (\$)	Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)		
Belgacem Chariag	PQIP	—	220,000	880,000	1,760,000	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	85,658	\$1,319,990
	PSU Grant	3/11/2019	—	—	—	17,846	142,765	285,530	—	\$2,200,009
Michael Crews	PQIP	—	90,000	360,000	720,000	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	48,669	\$ 749,989
	PSU Grant	3/11/2019	—	—	—	6,084	48,670	97,340	—	\$ 750,005
Scott Randolph	PQIP	—	90,000	360,00	720,000	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	32,446	\$ 499,993
	PSU Grant	3/11/2019	—	—	—	4,056	32,447	64,894	—	\$ 500,008
Ray Kolberg	PQIP	—	79,688	318,750	637,500	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	24,335	\$ 375,002
	PSU Grant	3/11/2019	—	—	—	3,042	24,335	48,670	—	\$ 375,002
Joseph S. Koscinski	PQIP	—	55,000	220,000	440,000	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	24,335	\$ 375,002
	PSU Grant	3/11/2019	—	—	—	3,042	24,335	48,670	—	\$ 375,002
David J. Taylor	PQIP	—	90,000	360,000	720,000	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	32,446	\$ 499,993
	PSU Grant	3/11/2019	—	—	—	4,056	32,447	64,894	—	\$ 500,008
Paul Ferrall	PQIP	—	90,000	360,000	720,000	—	—	—	—	—
	RSU Grant	3/11/2019	—	—	—	—	—	—	19,468	\$ 300,002
	PSU Grant	3/11/2019	—	—	—	2,434	19,468	38,936	—	\$ 300,002

- (1) Represents potential payments pursuant to the PQIP, the Company's performance-based annual bonus plan. Actual amounts earned by the named executive officer under the PQIP with respect to 2019 are listed in the "Non-Equity Incentive Plan Compensation" column of the Summary Compensation Table above.
- (2) Represents grants made to the NEOs of PSUs that will vest in February 2022 subject to achievement of the ROANTA and Adjusted Free Cash Flow performance targets described above under "Long-Term Equity Based Incentive Awards" in the Compensation Discussion and Analysis, generally subject to continued service through the applicable vesting date. Depending on the level of achievement of the performance goals, an amount ranging from 0% to 200% of the target number of PSUs granted may actually be earned.
- (3) Represents grants made to the NEOs of RSUs that vest in three equal installments on each of the first three anniversaries of the grant date, generally subject to continued service through the applicable vesting date.
- (4) Amounts shown reflect the aggregate grant date fair value of the equity awards granted in 2019, determined in accordance with FASB ASC Topic 718, disregarding the effects of estimated forfeitures. See note (5) to the Summary Compensation Table above.

2019 Outstanding Equity Awards at Fiscal Year End

The following table sets forth certain information with respect to outstanding equity awards held by our named executive officers as of December 31, 2019.

Name	Grant Date	Option Awards					Stock Awards			
		# of Securities Underlying Unexercised Options (#) Exercisable ⁽¹⁵⁾	# of Securities Underlying Unexercised Options (#) Unexercisable ⁽¹⁵⁾	Equity incentive plan awards: # of Securities Underlying Unexercised Unearned Options (#) ⁽¹⁵⁾	Option Exercise Price (\$) ⁽¹⁶⁾	Option Expiration Date	# of Shares or Units of Stock That have Not Vested (#) ⁽¹⁷⁾	Market Value of Shares or Units of Stock That Have Not Vested (\$) ⁽¹⁸⁾	Equity incentive plan awards: # of unearned shares, units or other rights that have not vested(#) ⁽¹⁷⁾	Equity incentive plan awards: market or payout value of unearned shares, units or other rights that have not vested (\$) ⁽¹⁸⁾
Belgacem Chariag										
	8/9/2018 ⁽¹⁾	—	—	—	—	—	37,715	647,944	—	—
	8/9/2018 ⁽²⁾	120,658	120,658	—	17.50	8/9/2028	—	—	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	85,658	1,471,604	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	142,765	2,452,703
Michael Crews										
	8/1/2015	54,536	—	—	6.88	8/1/2025	—	—	—	—
	6/30/2016 ⁽⁵⁾	—	—	—	—	—	—	—	12,945	222,395
	6/30/2016 ⁽⁶⁾	45,677	45,678	—	8.05	6/30/2026	—	—	—	—
	10/2/2017 ⁽⁷⁾	—	—	—	—	—	23,571	404,950	—	—
	10/2/2017 ⁽⁸⁾	37,174	18,588	—	16.97	10/2/2027	—	—	—	—
	10/2/2017	31,599	—	—	16.97	10/2/2027	—	—	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	48,669	836,133	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	48,670	836,151
Scott Randolph										
	9/19/2007 ⁽⁵⁾⁽⁹⁾	—	—	—	—	—	—	—	52,665	904,785
	2/24/2010 ⁽⁵⁾⁽⁹⁾	—	—	—	—	—	—	—	32,238	553,849
	5/4/2016 ⁽¹⁰⁾	152,318	—	—	8.04	5/4/2026	—	—	—	—
	10/2/2017 ⁽⁷⁾	—	—	—	—	—	23,571	404,950	—	—
	10/2/2017 ⁽⁸⁾	37,174	18,588	—	16.97	10/2/2027	—	—	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	32,446	557,422	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	32,447	557,439
Ray Kolberg										
	1/1/2016 ⁽¹¹⁾	—	—	—	—	—	9,915	170,340	—	—
	1/1/2016 ⁽¹²⁾	—	—	—	—	—	—	—	19,845	340,937
	1/1/2016 ⁽¹³⁾⁽¹⁴⁾	13,634	40,902	27,268	6.88	1/1/2026	—	—	—	—
	1/1/2017 ⁽⁶⁾⁽⁸⁾	20,597	41,195	30,896	8.98	1/1/2027	—	—	—	—
	10/2/2017 ⁽⁷⁾	—	—	—	—	—	14,732	253,096	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	24,335	418,075	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	24,335	418,075

Name	Grant Date	Option Awards					Stock Awards			
		# of Securities Underlying Unexercised Options (#) Exercisable ⁽¹⁵⁾	# of Securities Underlying Unexercised Options (#) Unexercisable ⁽¹⁵⁾	Equity incentive plan awards: # of Securities Underlying Unexercised Options (#) ⁽¹⁵⁾	Option Exercise Price (\$) ⁽¹⁶⁾	Option Expiration Date	# of Shares or Units of Stock That have Not Vested (#) ⁽¹⁷⁾	Market Value of Shares or Units of Stock That Have Not Vested (\$) ⁽¹⁸⁾	Equity incentive plan awards: # of unearned shares, units or other rights that have not vested (#) ⁽¹⁷⁾	Equity incentive plan awards: market or payout value of unearned shares, units or other rights that have not vested (\$) ⁽¹⁸⁾
Joseph S. Koscinski										
	11/1/2015	19,861	—	—	6.88	11/1/2025	—	—	—	—
	10/2/2017 ⁽⁷⁾	—	—	—	—	—	15,714	269,967	—	—
	10/2/2017 ⁽⁸⁾	24,782	12,393	—	16.97	10/2/2027	—	—	—	—
	10/2/2017	18,587	—	—	16.97	10/2/2027	—	—	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	24,335	418,075	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	24,335	418,075
David J. Taylor										
	10/2/2017 ⁽⁷⁾	—	—	—	—	—	23,571	404,950	—	—
	10/2/2017 ⁽⁸⁾	37,174	18,588	—	16.97	10/2/2027	—	—	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	32,446	557,422	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	32,447	557,439
Paul Ferrall										
	9/19/2007 ⁽⁵⁾	—	—	—	—	—	52,665	904,785	52,665	904,785
	2/24/2010 ⁽⁵⁾	—	—	—	—	—	—	—	32,238	553,849
	5/4/2016 ⁽¹⁰⁾	152,318	—	—	8.04	5/4/2026	—	—	—	—
	10/2/2017 ⁽⁷⁾	—	—	—	—	—	23,571	404,950	—	—
	10/2/2017 ⁽⁸⁾	37,174	18,588	—	16.97	10/2/2027	—	—	—	—
	3/11/2019 ⁽³⁾	—	—	—	—	—	19,468	334,460	—	—
	3/11/2019 ⁽⁴⁾	—	—	—	—	—	—	—	19,468	334,460

- (1) Time-based restricted stock units will vest in two equal installments on the first and second anniversaries of the grant date, generally provided Mr. Chariag is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (2) Time-based stock options will vest in two equal installments on the first and second anniversaries of the grant date, generally provided Mr. Chariag is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (3) Time-based restricted stock units will vest in three equal annual installments beginning on January 5, 2020, generally provided that the named executive officer is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (4) Performance-based restricted stock units will vest at the end of the performance period, December 31, 2021, subject to the achievement of performance goals between the period of January 1, 2019 and December 31, 2021, generally provided the named executive officer is still providing services on the vesting date to us or one of our subsidiaries. See "Long-Term Equity Based Incentive Awards" above. PSUs have been reported assuming target performance.
- (5) Performance-based restricted shares will vest on achievement of the MOI Target, generally provided the named executive officer is still providing services on the vesting date to us or one of our subsidiaries.
- (6) Performance-based stock options will vest on the achievement of the MOI Target, generally provided the named executive officer is still providing services on the vesting date to us or one of our subsidiaries.
- (7) Time-based restricted stock units will vest in three equal installments, beginning on the first anniversary of the grant date, generally provided the named executive officer is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (8) Time-based stock options will vest in three equal installments, beginning on the first anniversary of the grant date, generally provided the named executive officer is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (9) These shares have been assigned to an irrevocable family trust. Mr. Randolph is neither a trustee nor a beneficiary of this trust.
- (10) These options were granted in an exchange of equity in connection with a prior corporate reorganization.

- (11) Time-based restricted shares will vest in two equal installments, with 50% vesting on the second anniversary of grant date and 50% vesting on the fourth anniversary of grant date, generally provided the named executive officer is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (12) Performance-based restricted shares will vest on the earlier of the achievement of the MOI Target or January 1, 2020, generally provided the named executive officer is still providing services on the vesting date to us or one of our subsidiaries.
- (13) Time-based stock options will vest in two equal installments, with 50% vesting on the second anniversary of grant date and 50% vesting on the fourth anniversary of grant date, generally provided the named executive officer is still providing services on the applicable vesting date to us or one of our subsidiaries.
- (14) Performance-based stock options will vest on the earlier of the achievement of the MOI Target or January 1, 2020, generally provided the named executive officer is still providing services on the vesting date to us or one of our subsidiaries.
- (15) On September 28, 2017, the numbers of shares underlying outstanding Class A option awards were adjusted to reflect a stock split of 1 Class A share to 8.8275 common shares.
- (16) On September 28, 2017, the option exercise prices of outstanding option awards were adjusted to reflect the stock split described in note 15.
- (17) On September 28, 2017, the numbers of restricted shares granted pursuant to outstanding restricted stock agreements were adjusted. The awards granted to Mr. Randolph and Mr. Ferrall on September 19, 2007 and February 24, 2010 were adjusted to reflect a stock split of 1 Class A share to 8.8275 common shares. The restricted stock awards granted to the named executive officers between April 30, 2015 and January 15, 2017 were adjusted to reflect the conversion of 1 Class B share to 15 common shares.
- (18) Fair market value has been determined based on the fair market value per share of our Common Stock of \$17.18, which was the closing price of a share of our Common Stock as of December 31, 2019.

Option Exercises and Stock Vested in 2019

The following table shows amounts realized by our named executive officers upon the vesting of restricted shares or restricted stock units during the year ended December 31, 2019. No options were exercised by any of our named executive officers in the year ended December 31, 2019.

Executive	Stock Awards	
	Number of shares acquired on vesting (#)	Value realized on vesting (\$) ⁽¹⁾
Belgacem Chariag	37,714	533,653
Michael Crews	126,677	2,005,467
Scott Randolph	23,571	373,011
Ray Kolberg	14,732	233,134
Joseph S. Koscinski	41,570	667,327
David J. Taylor	23,571	373,011
Paul Ferrall	23,571	373,011

- (1) Amounts reflect the aggregate dollar value realized upon vesting by multiplying the number of shares that vested by the market value of the underlying Common Stock on the applicable vesting date.

Retirement Plan Benefits

We maintain the PQ Corporation Savings Plan, a tax-qualified 401(k) defined contribution plan, in which substantially all of our full-time U.S. employees, including our named executive officers, are eligible to participate. We currently provide an employer contribution equal to 4% of qualifying earnings and an employer matching contribution equal to 50% of a participant's contributions up to 6% of qualifying earnings, subject to limits established by the Internal Revenue Code. As described in more detail below, our named executive officers participate in the PQ Corporation Non-Qualified Personal Retirement Account Excess Savings Plan, an excess benefit plan designed to provide supplemental contributions that cannot be provided under our 401(k) plan due to Internal Revenue Code limits. We believe these plans provide our named executive officers with an opportunity for tax-efficient savings and long-term financial security.

Nonqualified Deferred Compensation

All of our named executive officers participate in the PQ Corporation Non-Qualified Personal Retirement Account Excess Savings Plan, or the PRA SERP. The PRA SERP is an excess benefit plan designed to provide supplemental Personal Retirement Account contributions that cannot be provided under our 401(k) plan due to Internal Revenue Code limits. The plan is administered by a committee appointed by our Board.

Contributions — There are no executive contributions under the PRA SERP. Each plan year, we credit to participant accounts under the PRA SERP the excess of (a) the amount that would have been credited for that year to the participant's Personal Retirement Account under our 401(k) plan disregarding the dollar limits imposed by the Internal Revenue Code for maximum annual compensation over (b) the amount that was actually so credited. The plan administrator may from time to time also elect to make special contributions to participant accounts.

Earning and losses — Participant accounts are deemed to be invested in Vanguard target retirement funds based on a participant's age. At the end of each calendar quarter, we adjust participant accounts with earnings/losses equal to that calendar quarter's return for the applicable target retirement fund.

Vesting and distributions — Participants vest in their accounts under the PRA SERP upon completion of three years of service or, if earlier, upon the participant's death or disability or a change in control. The value of a participant's vested account balance is paid in a lump sum on the first to occur of the participant's separation from service or disability, provided that distributions to "key employees" within the meaning of Section 416(i) of the Internal Revenue Code as of the date of the participant's separation from service will not be made until six (6) months after the participant's separation from service or, if earlier, the participant's death.

The following table provides information regarding participation by our named executive officers in the PRA SERP during the year ended December 31, 2019.

Name	Executive Contributions in Last FY (\$)	Company Contributions in Last FY (\$) ⁽¹⁾	Aggregate Earnings in Last FY (\$) ⁽²⁾	Aggregate Withdrawals/ Distributions (\$)	Aggregate Balance at Last FYE (\$) ⁽³⁾
Belgacem Chariag	—	34,035	—	—	—
Michael Crews	—	18,394	6,433	—	27,719
Scott Randolph	—	18,394	42,132	—	265,311
Ray Kolberg	—	15,613	10,738	—	74,676
Joseph S. Koscinski	—	11,152	4,900	—	33,184
David J. Taylor	—	—	837	—	10,070
Paul Ferrall	—	18,394	28,080	—	197,846

(1) Represents Company contributions with respect to 2019 that were credited in 2020. These amounts are included in the "All Other Compensation" column of the "Summary Compensation Table" above.

(2) Earnings are credited quarterly, based on the returns of the appropriate Vanguard Retirement Fund.

(3) Represents balances under the PRA SERP plan as of December 31, 2019 and does not include amounts attributable to Company contributions made with respect to 2019 but not credited until 2020.

Potential Payments Upon Termination or Change in Control

Cash Severance

Each of our named executive officers is party to a severance agreement or letter agreement with us that provides them with severance protections and benefits in the event of certain qualifying terminations of their employment.

The severance agreements for Messrs. Chariag, Crews, Randolph and Koscinski and Mr. Kolberg's offer letter provide for the severance payments and benefits described below in connection with specified termination events, subject to the named executive officer's execution and non-revocation of a release of claims and continued compliance with the restrictive covenants described below. The terms "cause", "good reason" and "disability" are each defined in the applicable agreements.

Under the terms of their severance agreements, in the event of a termination of the named executive officer's employment by the Company without cause or by the named executive officer with good reason, each of Messrs. Chariag, Crews, Randolph and Koscinski will receive: (i) his base salary and target annual incentive bonus for a two-year period following termination paid (A) in the case of Messrs. Chariag, Crews and Koscinski in equal installments over such two-year period in accordance with the normal payroll practices of the Company, and (B) in the case of Mr. Randolph, in a lump sum on the 60th day following termination in accordance with the terms of the severance agreements; (ii) a pro rata amount of the annual incentive bonus that would have been payable in the year of termination based on the number of days the named executive officer was employed during the calendar year and subject to the Company's achievement of applicable performance goals, which amount will be paid in a lump sum at the time annual bonuses under the PQIP are normally paid; and (iii) continuation of health benefits at active employee rates for 24 months (or until the named executive officer otherwise becomes eligible for health benefits as a result of commencing new employment) to the extent permitted by the applicable benefit plan, or reimbursement of the costs for such coverage under COBRA.

Under the severance provisions of Mr. Kolberg's offer letter, if Mr. Kolberg's employment is terminated by the Company without cause, he will be entitled to receive (i) his base salary and target annual incentive bonus for a one-year period following termination paid in equal installments over such one-year period in accordance with the normal payroll practices of the Company; (ii) a pro rata amount of any annual incentive bonus that would have been payable in the year of termination based on actual achievement of the applicable performance goals, which amount will be paid in a lump sum at the time annual bonuses are normally paid; and (iii) continuation of health benefits at active employee rates for 12 months (or until Mr. Kolberg otherwise has access to substantially equivalent health benefits as a result of commencing new employment).

If Mr. Chariag's employment is terminated by the Company without cause or by him with good reason, in each case, within the one year following a change in control of the Company, in addition to the severance payments and benefits described above, he will also be entitled to a payment equal to the sum of his base salary and target annual incentive bonus paid in a lump sum on the second anniversary of the date his employment terminates.

If the employment of Messrs. Chariag, Crews, Randolph or Koscinski is terminated due to death or disability, the individual (or his estate) will receive a pro rata amount of his target annual incentive bonus.

Each of the severance agreements provides that in the event that all or any portion of the payments or benefits provided under the severance agreement would constitute an "excess parachute payment" within the meaning of Section 280G of the Internal Revenue Code, the named executive officer will be entitled to receive an amount equal to the greater of (on an after-tax basis) (i) the amount of such payments or benefits reduced so that no portion of the payments and benefits would fail to be deductible under Section 280G, or (ii) the amount otherwise payable reduced by all taxes, including the excise tax imposed under Section 4999 of the Internal Revenue Code.

The severance agreements with each of Messrs. Chariag, Crews, Randolph and Koscinski contain restrictive covenants for the benefit of the Company, including two-year post termination non-compete and non-solicitation covenants, a prohibition of disclosure of confidential information, and an assignment of inventions and patents to the Company. The severance benefits provision of Mr. Kolberg's offer letter contain the same restrictive covenants.

Prior to their terminations of employment, the severance agreement with Mr. Ferrall and Mr. Taylor's letter agreement provided for similar severance payments and benefits as described above in connection with specified termination events. As discussed above, Mr. Taylor and Mr. Ferrall each had a termination of employment with the Company in 2019. The terms of

Mr. Taylor's separation agreement, along with the forms and amounts of actual severance paid, are discussed above in the section entitled "Transition and General Release Agreement with Mr. Taylor." The terms of Mr. Ferrall's separation agreement, along with the forms and amounts of actual severance paid, are discussed above in the section entitled "Transition and General Release Agreement with Mr. Ferrall."

Amended and Restated Severance Plan of PQ Corporation

The Amended and Restated Severance Plan (the "Severance Policy") was adopted by the Company effective January 1, 2020. Eligible employees, including our named executive officers, who have entered into a written individual employment agreement or severance agreement, or offer letter with the Company containing a severance provision prior to January 1, 2020 will only receive the severance benefit that provides the maximum benefit, either from such prior agreement or from the Severance Policy, but not both. There are no changes to our named executive officers severance benefits; however, going forward the Severance Policy may impact severance benefits to our future named executive officers.

Equity Awards

Equity awards subject to time vesting will vest and, as applicable, become exercisable upon a change of control of the Company. Equity awards subject to performance vesting based on the MOI Target will vest and, as applicable, become exercisable upon a change of control only if such change of control results in the MOI Target being satisfied. A portion of the PSUs granted in 2019 may be deemed earned and may vest upon a change of control, with such portion to be determined by the Compensation Committee based on the level of achievement of the applicable performance measures prior to the change of control.

Upon a termination of the named executive officer's employment due to death, disability, retirement, without cause, or for good reason (if applicable), equity awards subject to performance vesting based on the MOI Target will vest, and as applicable, become exercisable, only if the MOI Target is satisfied on or before the six month anniversary of the termination of employment.

Upon a termination of the named executive officer's employment due to disability, retirement, without cause, or for good reason (if applicable), a pro rata portion of the target number of PSUs granted in 2019 will remain outstanding until the applicable vesting date of the award and will be eligible to be earned based on actual performance, with such pro rata portion based on the number of days of the performance period that occurred prior to the termination of employment. Upon a termination of the named executive officer's employment due to death, a pro rata portion of the target number of PSUs granted in 2019 will be deemed earned at target levels and will vest, with such pro rata portion based on the number of days of the performance period that occurred prior to the named executive officer's death.

With respect to time based restricted stock units granted in 2018 and 2019, and outstanding time based stock options, there would be no acceleration of vesting on a termination of employment prior to the applicable vesting date of the award.

The table below shows the estimated value of the severance benefits that each of our currently employed named executive officers would have been entitled to receive if his employment was terminated by us without cause or by the named executive officer for good reason or the termination was due to death, disability or retirement. The table below assumes that such termination occurred on December 31, 2019. The table below also shows the estimated value associated with the acceleration of certain outstanding equity awards upon a change of control of the Company, assuming that such change of control occurred on December 31, 2019. The actual amounts that would be paid to any named executive officer can only be determined at the time an actual termination of employment or change of control occurs and could vary from those listed below.

	Termination without Cause or for Good Reason without a Change in Control		
Executive	Severance Pay (\$) ⁽¹⁾	Benefits (\$) ⁽²⁾	Total (\$)
Belgacem Chariag	\$3,520,000	\$48,938	\$3,568,938
Michael Crews	\$1,680,000	\$30,647	\$1,710,647
Scott Randolph	\$1,680,000	\$33,921	\$1,713,921
Ray Kolberg	\$ 743,750	\$24,469	\$ 768,219
Joseph S. Koscinski	\$1,240,000	\$14,202	\$1,254,202

	Change of Control Only, no Termination		
Executive	Severance Pay (\$) ⁽¹⁾	Benefits (\$) ⁽²⁾	Total (\$)
Belgacem Chariag	—	—	—
Michael Crews	—	—	—
Scott Randolph	—	—	—
Ray Kolberg	—	—	—
Joseph S. Koscinski	—	—	—

	Termination due to Death, Disability or Retirement		
Executive	Severance Pay (\$) ⁽¹⁾	Benefits (\$) ⁽²⁾	Total (\$)
Belgacem Chariag	—	—	—
Michael Crews	—	—	—
Scott Randolph	—	—	—
Ray Kolberg	—	—	—
Joseph S. Koscinski	—	—	—

- (1) Represents the cash severance amounts that would have been payable as a result of the event described in the table above, based on the named executive officer's base salary and target bonus amount in effect as of December 31, 2019, and without including any accrued but unpaid compensation, paid time – off or any bonus earned with respect to 2019 performance (pro rata or otherwise). The cash severance amounts that would have been payable to each of our named executive officers in connection with a termination of employment under various circumstances are described in more detail above.
- (2) Represents the estimated value of the Company – paid portion of the premium for health benefits for the applicable period. For purposes of these calculations, the estimates are based on the Company's contribution rates as in effect on January 1, 2020.

CEO Pay Ratio

As required by SEC rules, we are providing the following information about the relationship of the annual total compensation of our employees and the annual total compensation of our Chief Executive Officer. This pay ratio is a reasonable estimate calculated in a manner consistent with Item 402(u) of Regulation S-K. Because the SEC rules for identifying the median compensated employee and calculating the pay ratio based on that employee's annual total compensation allow companies to

adopt a variety of methodologies, to apply certain exclusions, and to make reasonable estimates and assumptions that reflect their compensation practices, the pay ratio reported by other companies may not be comparable to the pay ratio reported below.

The median of the annual total compensation of all employees in our Company for 2019, except for our Chief Executive Officer, was \$67,636. The total annualized compensation for our Chief Executive Officer for 2019 was \$5,463,523. The resulting 2019 ratio of annual total compensation of our Chief Executive officer to the median of the annual total compensation of all of our other employees is estimated to be 81:1.

We chose a measurement date of December 31, 2019 for identifying our median employee. We examined the annual base salary or base rate of pay of all our employees, excluding our Chief Executive Officer, who were employed by us on December 31, 2019. We included all U.S. and non-U.S. employees who worked full-time, part-time or as interns. The use of annual base salary or base rate of pay is a consistently applied compensation measure that we believe reasonably reflects the compensation for our employee population.

In the cases where a full-time or a regular scheduled part-time employee was employed on December 31, 2019, but was not employed by the Company for all of 2019, the base salary or base rate of pay was annualized. Regular scheduled part-time employees were not converted into full-time equivalents. Annual base salary or base rate of pay, as applicable, includes overtime, shift premium, vacation and paid sick time. The base salaries or base rates of pay of non-U.S. employees were converted into U.S. dollars using the Company's internal year to date average exchange rates.

After identifying the median employee based on the above methodology, we calculated that individual's total annual compensation using the same methodology set forth in the 2019 Summary Compensation Table in this proxy statement.

Equity Compensation Plan Information

The following table gives information, as of December 31, 2019, about our Common Stock that may be issued upon the exercise of options and settlement of other equity awards under all compensation plans under which equity securities are reserved for issuance. The SIP and the 2017 Plan are our only equity compensation plans pursuant to which our equity securities are authorized for issuance.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	4,553,469 ⁽¹⁾	\$11.44 ⁽²⁾	3,980,449 ⁽³⁾
Equity compensation plans not approved by security holders	0	0	0
Total	4,553,469	\$11.44	3,980,449

- (1) Represents the number of underlying shares of our Common Stock associated with outstanding options, RSUs and PSUs under stockholder approved plans and includes 1,511,294 stock options granted under the SIP, 863,063 stock options granted under the 2017 Plan, 1,628,436 RSUs granted under the 2017 Plan, and 550,676 PSUs granted under the 2017 Plan assuming performance at 100% of target.
- (2) Represents weighted-average exercise price of options outstanding under the SIP and the 2017 Plan. See note (1) above with respect to restricted stock units granted under the 2017 Plan. The weighted-average exercise price does not take these awards into account.
- (3) Represents the number of underlying shares of our Common Stock authorized for issuance under future equity awards granted under the 2017 Plan, which reflects PSU performance at 100% of target. At maximum performance of 200% of target, the number of securities remaining available for future issuance under equity compensation plans would decrease to 3,429,773.

PROPOSAL 2 — ADVISORY VOTE ON EXECUTIVE COMPENSATION

As required by Section 14A of the Securities Exchange Act of 1934, we are offering our stockholders an opportunity to cast an advisory vote on the compensation of our named executive officers, as disclosed in this Proxy Statement. Although the vote is non-binding, we value continuing and constructive feedback from our stockholders on compensation and other important matters. Our Board and the Compensation Committee expect to consider the voting results when making future compensation decisions.

As described in the “Compensation Discussion and Analysis” section of this Proxy Statement, we believe that our executive compensation program enables us to attract, retain, and motivate a high-performing executive management team that improves our fundamental financial performance and provides value to the Company and its stockholders.

We ask for your advisory vote on the following resolution:

“RESOLVED, that the stockholders hereby approve the compensation of PQ Group Holdings Inc. named executive officers, as described in this Proxy Statement pursuant to the compensation disclosure rules of the Securities and Exchange Commission.”

Generally, approval of any matter presented to stockholders requires the affirmative vote of the holders of a majority of the shares of Common Stock represented at the Annual Meeting and voting on the matter. However, because this vote is advisory and non-binding there is no “required” vote that would constitute approval.

Your Board unanimously recommends that you vote “FOR” approval of this proposal.

AUDIT COMMITTEE MATTERS

Audit Committee Report

The information contained in this report shall not be deemed to be “soliciting material” or “filed” or incorporated by reference in future filings with the Securities and Exchange Commission, or subject to the liabilities of Section 18 of the Exchange Act, except to the extent that the Company specifically incorporates it by reference into a document filed under the Securities Act or the Exchange Act.

We operate in accordance with a written charter adopted by the Board and reviewed annually by the Committee. We are responsible for overseeing the quality and integrity of PQ’s accounting, auditing and financial reporting practices. In accordance with the rules of the Securities and Exchange Commission and the New York Stock Exchange, the Audit Committee is composed entirely of members who are independent, as defined by the listing standards of the New York Stock Exchange and PQ’s Corporate Governance Guidelines. Further, the Board has determined that one of our members (Ms. Ross) is an audit committee financial expert as defined by the rules of the Securities and Exchange Commission.

The Audit Committee met five times during fiscal 2019 with PQ’s management and PricewaterhouseCoopers LLP (“PwC”), PQ’s independent registered public accounting firm, including, but not limited to, meetings held to review and discuss the annual audited and quarterly financial statements and the Company’s earnings press releases.

We believe that we fully discharged our oversight responsibilities as described in our charter, including with respect to the audit process. We have discussed with PwC the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board (“PCAOB”) and the Securities and Exchange Commission and have received the written disclosures and the letter from PwC required by applicable requirements of the PCAOB regarding PwC’s communications with the Audit Committee concerning independence, and discussed with PwC its independence. We discussed with management, the internal auditors and PwC PQ’s internal control over financial reporting and the internal audit function’s organization, responsibilities, budget and staffing. We reviewed with both PwC and our internal auditors their audit plans, audit scope, identification of audit risks and their audit efforts.

We discussed and reviewed with PwC their communications required by the Standards of the PCAOB and, with and without management present, discussed and reviewed the results of PwC’s examination of PQ’s financial statements. We also discussed the results of the internal audit examinations with and without management present.

We reviewed the audited consolidated financial statements of PQ as of and for the fiscal year ended December 31, 2019 with Management and PwC. Management has the responsibility for the preparation of PQ’s financial statements, and PwC has the responsibility for the audit of those statements.

Based on these reviews and discussions with management and PwC, we approved the inclusion of PQ’s audited financial statements in its Annual Report on Form 10-K for the year ended December 31, 2019 for filing with the Securities and Exchange Commission. We also have selected PwC as the independent registered public accounting firm for the year ended December 31, 2020, subject to ratification by PQ’s stockholders.

Audit Committee

Kimberly Ross, Chairperson
Robert Coxon
Kyle Vann

Audit and Other Fees

The aggregate fees that PQ paid for professional services rendered by PwC for the fiscal year ended December 31, 2019 (fiscal 2019) and the fiscal year ended December 31, 2018 (fiscal 2018) were:

	Fiscal 2019	Fiscal 2018
Audit	\$3,271,617	\$3,224,000
Audit Related	\$1,140,960	\$ 17,845
Tax	\$1,475,056	\$1,112,000
All Other	\$ 2,700	\$ 2,700
Total	\$5,890,333	\$4,356,545

- Audit fees were for professional services rendered for the audit of our annual audited consolidated financial statements and review of our quarterly financial statements, advice on accounting matters directly related to the audit and audit services, and assistance with review of documents filed with the Securities and Exchange Commission.
- Audit related fees were for audits and reviews not required under securities laws, as well as accounting consultations, compilations and other assurance-related services.
- Tax fees were for professional services related to tax compliance and tax consulting services, including assistance with tax audits.
- All other fees were for software license fees.

The Audit Committee pre-approves all audit services and all permitted non-audit services, including engagement fees and terms, to be provided by the independent auditors. Our policies prohibit PQ from engaging PwC to provide any non-audit services prohibited by applicable Securities and Exchange Commission rules. In addition, we evaluate whether PQ's use of PwC for permitted non-audit services is compatible with maintaining PwC's independence and objectivity. After review of the non-audit services provided, we concluded that PwC's provision of these non-audit services, all of which were approved in advance, is compatible with its independence.

PROPOSAL 3

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of our Board has appointed PricewaterhouseCoopers LLP ("PwC") as our independent registered public accounting firm for the fiscal year ending December 31, 2020. We are asking stockholders to ratify this appointment. PwC has served as our independent registered public accounting firm since 2015. Representatives of PwC will attend the Annual Meeting, where they will have the opportunity to make a statement if they wish to do so and will be available to answer questions from the stockholders.

The Board recommends a vote FOR Proposal 3, Ratification of Appointment of Independent Registered Public Accounting Firm.

PROPOSAL 4 – APPROVAL OF THE PQ GROUP HOLDINGS INC. 2017 OMNIBUS INCENTIVE PLAN, AS AMENDED AND RESTATED

Immediately prior to our initial public offering our stockholders approved the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan (the “2017 Plan”). At that time, there was a total of 7,344,000 shares available for issuance under the 2017 Plan, plus 372,520 shares remaining available for grant under the predecessor plan, the PQ Group Holdings Inc. Stock Incentive Plan (“SIP”). On December 11, 2019, based on business needs and the recommendation of WealthPoint, LLC, independent consultant to the Compensation Committee, the Compensation Committee and subsequently our Board approved, subject to stockholder approval, certain changes to the 2017 Plan, including:

1. An amendment to Section 4.1 to increase the number of shares available under the 2017 Plan by additional 9,000,000 shares.
2. An amendment to Section 4.2 to revise the 2017 Plan rules to include more limited share recycling provisions. The changes made will result in less recycling of shares in the future.
3. Certain technical updates were made to various provisions of the 2017 Plan to reflect changes in law related to Section 162(m) of the Code.

The changes to the 2017 Plan will not become effective unless the 2017 Plan, as Amended and Restated, is approved by our stockholders. The material features of the 2017 Plan, as Amended and Restated, are described under “Summary of the 2017 Plan” below.

Reasons for the Amendments

The Compensation Committee and our Board believe that attracting and retaining highly qualified executives and key employees and motivating them to work to achieve share value creation is important to our growth and success. In this regard, equity awards have been and will continue to be an important element of our compensation program. We believe performance share units (or PSUs), restricted stock, restricted stock units, stock options and other forms of equity-based incentive awards enable our executives and key employees to acquire or increase their proprietary interest in the operations and future success of the Company, thereby promoting a close identity of interests between such individuals and our stockholders. We believe that the 2017 Plan, as Amended and Restated, which authorizes the issuance of additional shares under the 2017 Plan, is necessary in order to support our equity compensation program going forward, and is in the best interests of our stockholders.

The 2017 Plan is the only current plan of the Company under which equity awards may be granted to our employees. As of March 3, 2020, approximately 2,599,935 shares were available for grant under the 2017 Plan, less a reserve for outstanding PSUs that may vest above target, which is approximately 975,918 shares at 200% of target performance. The average annual equity grant under the 2017 Plan since its adoption has been 2,049,590 shares per year (with PSUs counted assuming target performance). This amounts to a three-year average burn rate of approximately 1.5%.

Shares that may be delivered under the 2017 Plan may be authorized and unissued shares or treasury shares. Other share-counting provisions, including adjustments to the numbers of shares available under the 2017 Plan, as Amended and Restated, are described below under “Authorized Shares.” We believe the additional 9,000,000 shares will be sufficient for approximately three years’ worth of grants, plus the necessary reserve for PSUs that may vest above target. The shares remaining available for awards under the 2017 Plan, plus the additional 9,000,000 shares authorized by the 2017 Plan, as Amended and Restated, represents 8.48% of the total number of shares of our Common Stock outstanding as of March 3, 2020.

Summary of the 2017 Plan, as Amended and Restated

The following summary describes the material terms of the 2017 Plan, as Amended and Restated. For purposes of this summary, the document is referred to as the 2017 Plan. This summary of the 2017 Plan is not a complete description of the provisions of the 2017 Plan and is qualified in its entirety by reference to the 2017 Plan, as Amended and Restated, a copy of which is attached as an exhibit to this Proxy Statement.

Administration. The 2017 Plan is administered by the Compensation Committee, or such other committee, which, to the extent deemed necessary by our Board, will be comprised of no fewer than two members of our Board, appointed by our Board, or our full Board (any of the foregoing, as applicable, the “Committee”). The Committee has the authority to, among other things, interpret the 2017 Plan and the terms of awards, determine eligibility, prescribe the restrictions, terms and conditions of all awards, determine the form of settlement of awards (whether in cash, shares of our Common Stock and/or other property), adopt rules for the administration, interpretation and application of the 2017 Plan, make all determinations with respect to a participant’s service and the termination of such service for purposes of any award, correct any defects or omissions or reconcile any ambiguities or inconsistencies in the 2017 Plan or any award, make all determinations it deems advisable for the administration of the 2017 Plan, decide all disputes arising in connection with the 2017 Plan, amend the terms of an award in any manner that is not inconsistent with the 2017 Plan, accelerate the vesting or exercisability of any award, and do all things necessary or appropriate to administer the 2017 Plan. The Committee’s determinations under the 2017 Plan are final, conclusive, and binding. The Committee shall have the right to delegate to one or more of its members, members of our Board or officers of the Company the authority of the Committee to grant and determine the terms and conditions of awards granted under the 2017 Plan, subject to applicable laws, and to any appropriate officer or employee the responsibility for performing certain ministerial functions under the 2017 Plan.

Eligibility. Employees, directors, consultants and personal service providers of the Company and our subsidiaries are eligible to participate in the 2017 Plan. Eligibility for stock options intended to be incentive stock options (“ISOs”) is limited to our employees.

Authorized shares. Subject to adjustment as described below, the maximum number of shares of our Common Stock that are reserved for issuance under the 2017 Plan is 16,716,520 shares. The maximum amount of shares of our Common Stock that may be issued in satisfaction of incentive stock options under the 2017 plan is 11,000,000 shares.

To the extent awards granted under the 2017 Plan expire, or are canceled, forfeited, surrendered, or are otherwise terminated without delivery of shares to the participant, the shares retained by or returned to us, in each case, will not be deemed to have been delivered under the 2017 Plan, will be available for future awards under the 2017 Plan and will increase the number of shares reserved for issuance under the 2017 Plan by one share for each share that is retained or returned to us. In addition, any shares that become available for issuance pursuant to the SIP as a result of the forfeiture, cancellation or termination for no consideration will not be available for future awards under the SIP, but will be available for future awards under the 2017 Plan and increase the number of shares reserved for issuance under the 2017 Plan by one share for each share that is retained or returned to us, subject to a maximum of 6,966,000 shares.

Individual limits. The maximum number of shares of our Common Stock subject to restricted stock awards and restricted stock units that, in each case, vest in full or in part based on the attainment of performance goals, stock options and SARs that may be granted to any participant (other than a non-employee director) in any calendar year is, in each case, 1,000,000 shares. The maximum number of shares of our Common Stock subject to restricted stock awards and restricted stock units that, in each case, vest in full or in part based on continued employment over a stated period of time, that may be granted to any participant (other than a non-employee director) in any calendar year is, in each case, 750,000 shares. The maximum number of shares of our Common Stock subject to stock awards that may be granted to any participant (other than a non-employee director) in any calendar year is 250,000 shares. The maximum amount that may become payable to any participant (including any non-employee director) under all cash awards in any calendar year is \$15,000,000. The foregoing limits are subject to adjustment as described below. If an award is settled in cash, the shares on which the award is based will count toward the annual cash limit and not the individual share limits described above (or below, in the case of non-employee directors).

Non-employee director limits. Subject to adjustment as described below, the maximum number of shares of our Common Stock subject to stock options, SARs, restricted stock awards, restricted stock units, and stock awards that may be granted to any non-employee director in any calendar year is 250,000 shares for all such award types in the aggregate.

Types of awards. The 2017 Plan provides for awards of stock options, SARs, restricted stock awards, restricted stock units, performance stock units (or PSUs), cash awards and stock awards. Dividend equivalents may also be provided in connection with an award under the 2017 Plan on terms and subject to conditions established by the Committee.

- Stock options and SARs. The Committee may grant stock options, including ISOs and SARs. A stock option is a right entitling the holder to purchase shares of our Common Stock upon payment of the applicable exercise price. A SAR is a right entitling the holder upon exercise to receive a payment (payable in cash or shares of equivalent value) representing the excess of the fair market value of a share of our Common Stock over the base price per share of the right. SARs may be granted in tandem with a stock option or without any related stock option. The per share exercise price of a stock option, and the base price against which a SAR granted without any related stock option is to be measured, may not be less than 100% of the fair market value of a share of our Common Stock on the date of grant (110% in the case of certain ISOs). The Committee may impose conditions on the time or times at which stock options or SARs become exercisable and the terms on which such awards remain exercisable and may provide that SARs are automatically payable upon a specified date or event.
- Restricted stock awards. The Committee may grant restricted stock awards. A restricted stock award is an award of shares in our Common Stock subject to vesting and transfer restrictions as determined by the Committee.
- Restricted stock units. The Committee may grant restricted stock units. A restricted stock unit award is an unfunded and unsecured contractual right, denominated in shares of our Common Stock, which entitles the participant to receive shares of our Common Stock or cash measured by the value of shares of our Common Stock in the future.
- Performance stock unit. The Committee may grant performance awards, including performance stock units. A performance stock unit is a restricted stock unit, paid or distributed based on or conditioned upon the attainment of pre-established business and/or individual performance goals.
- Cash awards. The Committee may grant cash awards. A cash award is an award denominated in cash, which may be payable based on or conditioned upon the attainment of pre-established business and/or individual performance goals.
- Stock awards. The Committee may grant stock awards. Stock awards are awards of shares of our Common Stock issued free of transfer restrictions and forfeiture conditions.

Performance awards. The 2017 Plan permits the grant of awards that are based upon, and subject to achieving, specified performance goals relating to performance criteria. Performance criteria with respect to those awards consist of one or any combination of the following, for the Company or any identified subsidiary or business unit (with associated performance goals applied on an absolute basis or relative to an identified index, peer group, or one or more competitors or other companies): (a) net earnings; (b) earnings per share; (c) net debt; (d) revenue or sales growth; (e) net or operating income; (f) net operating profit; (g) return measures (including, but not limited to, return on assets, capital, equity or sales); (h) cash flow (including, but not limited to, operating cash flow, distributable cash flow and adjusted free cash flow); (i) earnings before or after taxes, interest, depreciation, amortization and/or rent; (j) share price (including, but not limited to growth measures and total or relative stockholder return); (k) expense control or loss management; (l) customer satisfaction; (m) market share; (n) economic value added; (o) working capital; (p) the formation of joint ventures or the completion of other corporate transactions; (q) gross or net profit margins; (r) revenue mix; (s) operating efficiency; (t) product diversification; (u) market penetration; (v) measurable achievement in quality, operation or compliance initiatives; (w) quarterly dividends or distributions; (x) employee retention or turnover; or (y) any combination of or a specified increase in any of the foregoing.

Vesting. The Committee has the authority to determine the vesting terms and schedule applicable to each award, and to accelerate the vesting or exercisability of any award.

Termination of employment or service. The Committee will determine the effect of a termination of employment or service on an award. Unless otherwise determined by the Committee, all unvested awards will be forfeited upon a termination of employment or service, all awards will terminate upon a termination for cause, and participants will have a period of the shorter of three months (or 12 months in the case of a termination due to death or disability) and the remaining term of the award following termination to exercise any vested stock options.

Non-transferability of awards. Awards under the 2017 Plan may not be transferred other than by will or the laws of descent and distribution, unless, for awards other than ISOs, otherwise provided by the Committee.

Certain transactions; certain adjustments. In the event of a recapitalization, reclassification, stock dividend, extraordinary cash dividend, stock split, reverse stock split or other distribution with respect to shares of Common Stock or any merger, reorganization, consolidation, combination, spin-off, stock purchase or other similar corporate change or any other change affecting our Common Stock, the Committee will make appropriate adjustments to the maximum number and kind of shares of Common Stock that may be delivered under the 2017 Plan (including the individual share limits described above) and will also make appropriate adjustments to the number and kind of shares, units, or other rights subject to outstanding awards, the exercise price or base price of such awards, the maximum amount payable under cash awards, or any other terms of awards affected by such change.

In the event of a change in control, unless otherwise provided in an award agreement, the Committee can make adjustments in the terms and conditions of outstanding awards, including: (a) continuation or assumption of outstanding awards, (b) substitution of awards with substantially the same terms for awards granted under the 2017 Plan, (c) accelerated exercisability, vesting and/or payment under outstanding awards in connection with such transaction or a termination of employment following the transaction and (d) a cash payment in exchange for cancellation of awards or a requirement to exercise awards prior to such transaction, in the event of certain change in control transactions.

No Repricing. The repricing of stock options and SARs (other than in connection with certain corporate transactions) is prohibited without prior approval of the Company's stockholders.

Recoupment. If the Company is required to prepare an accounting restatement due to the material noncompliance of the Company, as a result of misconduct, with any financial reporting requirement under the securities laws, then any participant who is subject to automatic forfeiture under Section 304 of the Sarbanes-Oxley Act of 2002 will be required to reimburse the Company for the amount of any awards received under the 2017 Plan in the 12-month period following the first public issuance or filing of the financial document required to be restated. The Company may also recover awards and payments under any award in accordance with any applicable Company clawback or forfeiture policy, as amended and in effect from time to time, or as otherwise required by applicable law or applicable stock exchange listing standards.

Amendment; termination. Our Board may amend, modify, suspend, or terminate the 2017 Plan, except to the extent that such amendment, modification, suspension, or termination would adversely affect an award granted pursuant to the 2017 Plan without the participant's consent (except to comply with Section 422 of the Code). Our Board may seek stockholder approval for any amendment, modification, suspension or termination to the 2017 Plan in its discretion for purposes of compliance with Section 422 of the Code, stock exchange listing requirements or for any other purpose.

Certain Federal Income Tax Consequences of the 2017 Plan, as Amended and Restated

This following is a summary of certain U.S. federal income tax consequences associated with awards granted under the 2017 Plan, as Amended and Restated. The summary does not purport to cover federal employment tax or other U.S. federal tax consequences that may be associated with the 2017 Plan, as Amended and Restated, nor does it cover state, local or non-U.S. taxes, except as may be specifically noted.

Stock Options (other than ISOs). In general, a participant has no taxable income upon the grant of a stock option that is not intended to be an ISO (an "NSO") but realizes income in connection with the exercise of the NSO in an amount equal to the

excess (at the time of exercise) of the fair market value of the shares acquired upon exercise over the exercise price. A corresponding deduction is generally available to the Company, subject to the limitations set forth in the Code. Upon a subsequent sale or exchange of the shares, any recognized gain or loss is treated as a capital gain or loss for which the Company is not entitled to a deduction.

ISOs. In general, a participant realizes no taxable income upon the grant or exercise of an ISO. However, the exercise of an ISO may result in an alternative minimum tax liability to the participant. With some exceptions, a disposition of shares purchased pursuant to an ISO within two years from the date of grant or within one year after exercise produces ordinary income to the participant (and generally a deduction to the Company, subject to the limitations set forth in the Code) equal to the value of the shares at the time of exercise less the exercise price. Any additional gain recognized in the disposition is treated as a capital gain for which the Company is not entitled to a deduction. If the participant does not dispose of the shares until after the expiration of these one and two-year holding periods, any gain or loss recognized upon a subsequent sale of shares purchased pursuant to an ISO is treated as a long-term capital gain or loss for which the Company is not entitled to a deduction.

SARs. The grant of a SAR does not itself result in taxable income, nor does taxable income result merely because a SAR becomes exercisable. In general, a participant who exercises a SAR for shares of stock or receives payment in cancellation of a SAR will have ordinary income equal to the amount of any cash and the fair market value of any stock received. A corresponding deduction is generally available to the Company, subject to the limitations set forth in the Code.

Unrestricted Stock Awards. A participant who purchases or is awarded unrestricted stock generally has ordinary income equal to the excess of the fair market value of the shares at that time over the purchase price, if any, and a corresponding deduction is generally available to the Company, subject to the limitations set forth in the Code.

Restricted Stock Awards. A participant who is awarded or purchases shares subject to a substantial risk of forfeiture generally does not have income until the risk of forfeiture lapses. When the risk of forfeiture lapses, the participant has ordinary income equal to the excess of the fair market value of the shares at that time over the purchase price, if any, and a corresponding deduction is generally available to the Company, subject to the limitations set forth in the Code. However, a participant may make an election under Section 83(b) of the Code to be taxed on restricted stock when it is acquired rather than later, when the substantial risk of forfeiture lapses. A participant who makes an effective 83(b) election will realize ordinary income equal to the fair market value of the shares as of the time of acquisition less any price paid for the shares. A corresponding deduction will generally be available to the Company, subject to the limitations set forth in the Code. If a participant makes an effective 83(b) election, no additional income results by reason of the lapsing of the restrictions.

For purposes of determining capital gain or loss on a sale of shares awarded under the 2017 Plan, as Amended and Restated, the holding period in the shares begins when the participant recognizes taxable income with respect to the transfer. The participant's tax basis in the shares equals the amount paid for the shares plus any income realized with respect to the transfer. However, if a participant makes an effective 83(b) election and later forfeits the shares, the tax loss realized as a result of the forfeiture is limited to the excess of what the participant paid for the shares (if anything) over the amount (if any) realized in connection with the forfeiture.

Restricted Stock Units. The grant of a restricted stock unit does not itself generally result in taxable income. Instead, the participant is taxed upon vesting (and a corresponding deduction is generally available to the Company, subject to the limitations set forth in the Code), unless he or she has made a proper election to defer receipt of the shares (or cash if the award is cash settled) under Section 409A of the Code. If the shares delivered are restricted for tax purposes, the participant will instead be subject to the rules described above for restricted stock.

Vote Required; Recommendation of the Board

The 2017 Plan, as Amended and Restated, will be approved upon the affirmative vote of a majority of the votes cast on the proposal. Under applicable rules of the New York Stock Exchange and guidance applicable to stockholder approval of equity compensation plans, an abstention is treated as a vote cast and it will have the same effect as a vote “against” the proposal. Broker non-votes are not considered votes cast, and will have no effect on the results of the proposal.

We ask for your vote on the following resolution:

“RESOLVED, that the stockholders hereby approve the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan, as Amended and Restated”.

Your Board unanimously recommends that you vote “FOR” this proposal.

OTHER INFORMATION

Stockholder Proposals for the 2021 Annual Meeting

Our stockholders may submit a proposal to be considered for a vote at our 2021 annual meeting of stockholders. If you wish to submit a proposal for consideration, you should adhere to the following procedures as prescribed in our Bylaws or Rule 14a-8 under the Exchange Act ("Rule 14a-8").

Under Rule 14a-8, a stockholder who intends to present a proposal at the 2021 annual meeting of stockholders and who wishes the proposal to be included in the proxy materials for that meeting must submit the proposal in writing to us so that it is received by our Secretary no later than November 24, 2020. Please refer to Rule 14a-8 for the requirements that apply to these proposals. Any proposals received after this date will be considered untimely under Rule 14a-8. Written proposals may be mailed to us at PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355, Attn: Secretary.

In addition, a stockholder may nominate a director or present any other proposal at the 2021 annual meeting of stockholders by complying with the requirements set forth in Section 1.2 (Advance Notice of Nominations and Proposals of Business) of our Bylaws by providing written notice of the nomination or proposal to our Secretary no earlier than December 31, 2020 and no later than January 30, 2021. We reserve the right to reject, rule out of order, or take other appropriate action with respect to any proposal that does not comply with these and other applicable requirements. Our Bylaws describe the requirements for submitting proposals at the Annual Meeting. The notice must be given in the manner and must include the information and representations required by our Bylaws.

Annual Report on Form 10-K

Our Annual Report on Form 10-K for the year ended December 31, 2019 is available without charge to each stockholder, upon written request to the Secretary at our principal executive offices at 300 Lindenwood Drive, Malvern, Pennsylvania 19355 and is also available by clicking "SEC Filings" in the Investors section of our website, www.pqcorp.com.

Stockholder Account Maintenance

Our transfer agent is American Stock Transfer and Trust Company, LLC ("AST"). All communications concerning accounts of stockholders of record, including address changes, name changes, inquiries as to requirements to transfer PQ stock and similar issues, can be handled by calling AST toll-free at (800) 937-5449 or by accessing AST's website at www.astfinancial.com.

Householding of Proxy Materials

Like many other companies, brokers, banks, and nominee record holders, PQ participates in a practice commonly known as "householding," where a single copy of our Proxy Statement and 2019 Annual Report is sent to one address for the benefit of two or more stockholders sharing that address unless we have received contrary instructions. Householding is permitted under rules adopted by the Securities and Exchange Commission as a means of satisfying the delivery requirements for proxy statements and annual reports, potentially resulting in extra convenience for stockholders and cost savings for companies. If you hold your shares through a broker, you may have consented to reducing the number of copies of materials delivered to your address. In the event you wish to revoke your consent provided to a broker, you must contact that broker to revoke your consent. If you are subject to householding, we will promptly deliver a separate copy of either document to you if you contact our Secretary at PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355 or call us at (610) 651-4400. If you receive multiple copies of our Proxy Statement and 2019 Annual Report at your household and wish to receive only one, please notify your broker or contact our Secretary.

Other Matters

At the time of mailing of this Proxy Statement, we do not know of any other matter that may come before the Annual Meeting and do not intend to present any other matter. However, if any other matters properly come before the meeting or any adjournment, the persons named as proxies will have discretionary authority to vote the shares represented by the proxies in accordance with their own judgment, including the authority to vote to adjourn the meeting.

EXHIBIT A

PQ GROUP HOLDINGS INC.

2017 OMNIBUS INCENTIVE PLAN

As Amended and Restated

1. Purpose. The purpose of the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan is to further align the interests of Eligible Persons with those of the Company's stockholders by providing long-term cash and equity incentive compensation opportunities tied to the performance of the Company and/or its Common Stock. The Plan is intended to advance the interests of the Company and increase stockholder value by attracting, retaining and motivating key personnel upon whose judgment, initiative and effort the successful conduct of the Company's business is largely dependent.

2. Definitions. Wherever the following capitalized terms are used in the Plan, they shall have the meanings specified below: "*Award*" means an award of Stock Options, Stock Appreciation Rights, a Restricted Stock Award, Restricted Stock Units, a Cash Award, a Performance Award or a Stock Award granted under the Plan.

"*Award Agreement*" means a notice or an agreement entered into between the Company and a Participant setting forth the terms and conditions of an Award granted to a Participant as provided in Section 15.2 hereof.

"*Beneficial Owner*" shall have the meaning ascribed to such term in Rule 13d-3 under the Exchange Act. "*Board*" means the Board of Directors of the Company.

"*Cash Award*" means an Award denominated in cash that is granted to an Eligible Person under Section 10 hereof and subject to such conditions as are set forth in the Plan and the applicable Award Agreement.

"*Cause*" shall have the meaning set forth in Section 13.2 hereof.

"*Change in Control*" shall have the meaning set forth in Section 12.2 hereof. "*Code*" means the Internal Revenue Code of 1986, as amended.

"*Committee*" means (i) the Compensation Committee of the Board, (ii) as provided in Section 3.1 hereof, such other committee of the Board appointed by the Board to administer the Plan, (iii) as provided in Section 3.1 hereof, the full Board, or (iv) as provided in Section 3.3 hereof, its delegates.

"*Common Stock*" means the Company's common stock, par value \$0.01 per share, as the same may be reclassified, exchanged or recapitalized.

"*Company*" means PQ Group Holdings Inc., a Delaware corporation or any successor thereto.

"*Date of Grant*" means the date on which an Award under the Plan is granted or approved for grant by the Committee or such later date as the Committee may specify to be the effective date of an Award.

"*Disability*" shall have the meaning set forth below, except with respect to any Participant who has an effective employment agreement or service agreement with the Company or one of its Subsidiaries that defines "Disability" or a like term, in which event the definition of "Disability" as set forth in such agreement shall be deemed to be the definition of "Disability" herein solely for such Participant and only for so long as such agreement remains effective. In all other events, the term "Disability" shall mean a Participant's inability to perform the essential duties, responsibilities and functions of such Participant's position with the Company and its Subsidiaries for a period of ninety (90) consecutive days or for a total of one hundred and eighty (180) days during any twelve (12) -month period as a result of any mental or physical illness, disability or incapacity even with reasonable accommodations for such illness, disability or incapacity provided by the Company and its Subsidiaries or if providing such accommodations would be unreasonable and which condition is expected to last for a continuous period of not less than twelve (12) months, all as determined by the Committee in its reasonable good faith judgment. A Participant shall cooperate in all respects with the Company if a question arises as to whether he or she has

become disabled (including, without limitation, submitting to reasonable examinations by one or more medical doctors and other health care specialists selected by the Company and authorizing such medical doctors and other health care specialists to discuss the Participant's condition with the Company). Notwithstanding anything to the contrary contained herein, and solely for purposes of any Incentive Stock Option, "Disability" shall mean a permanent and total disability (within the meaning of Section 22(e)(3) of the Code).

"*Effective Date*" shall have the meaning set forth in Section 16.1 hereof.

"*Eligible Person*" means any person who is an employee, Non-Employee Director, consultant or other personal service provider of the Company or any of its Subsidiaries.

"*Exchange Act*" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder from time to time.

"*Fair Market Value*" means, with respect to a share of Common Stock as of a given date of determination hereunder, the average of the high and low trading prices for such shares as reported on the principal exchange (including NYSE) on which the Common Stock is then listed on the trading day immediately preceding the date as of which such Fair Market Value is determined, or if the Common Stock was not traded on such date, then on the next preceding trading day that the Common Stock was traded on such exchange, as reported by such responsible reporting service as the Committee may select. If the Common Stock is not listed on any such exchange, "Fair Market Value" shall be such value as determined by the Board or the Committee in its discretion and, to the extent necessary, shall be determined in a manner consistent with Section 409A of the Code and the regulations thereunder.

"*Incentive Stock Option*" means a Stock Option granted under Section 6 hereof that is intended to meet the requirements of Section 422 of the Code and the regulations thereunder.

"*Non-Employee Director*" means a member of the Board who is not an employee of the Company or any of its Subsidiaries. "*Nonqualified Stock Option*" means a Stock Option granted under Section 6 hereof that is not an Incentive Stock Option. "*NYSE*" means the New York Stock Exchange.

"*Participant*" means any Eligible Person who holds an outstanding Award under the Plan.

"*Performance Award*" means an Award that is payable based on or conditioned upon the attainment of pre-established business and/or individual Performance Goals over a specified performance period and subject to such conditions as are set forth in the Plan and the applicable Award Agreement (including a Performance Stock Unit).

"*Performance Criteria*" shall have the meaning set forth in Section 10.3 hereof. "*Performance Goals*" shall have the meaning set forth in Section 10.4 hereof.

"*Performance Stock Unit*" means a Restricted Stock Unit denominated as a Performance Stock Unit under Section 9.2 hereof, to be paid or distributed based on or conditioned upon the attainment of pre-established business and/or individual Performance Goals over a specified performance period.

"*Person*" shall have the meaning ascribed to such term in Section 3(a)(9) of the Exchange Act and used in Sections 13(d) and 14(d) thereof, including a "group" as defined in Section 13(d) thereof.

"*Plan*" means the PQ Group Holdings Inc. 2017 Omnibus Incentive Plan as set forth herein, effective and as may be amended from time to time as provided herein.

"*Public Offering*" means the sale of shares of the Common Stock to the public pursuant to an effective registration statement (other than a registration statement on Form S-4 or S-8 or any similar or successor form) filed under the Securities Act in connection with an underwritten offering.

"*Restricted Stock Award*" means a grant of shares of Common Stock to an Eligible Person under Section 8 hereof that are issued subject to such vesting and transfer restrictions as the Committee shall determine, and such other conditions, as are set forth in the Plan and the applicable Award Agreement.

“Restricted Stock Unit” means an unfunded and unsecured contractual right granted to an Eligible Person under Section 9 hereof, denominated in Common Stock, and representing the right to be paid cash or distributed Common Stock measured by the value of a share of Common Stock in the future, at such times, and subject to such conditions, as are set forth in the Plan and the applicable Award Agreement.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder from time to time.

“Service” means a Participant’s employment with the Company or any Subsidiary or a Participant’s service as a Non-Employee Director, consultant or other service provider with the Company or any Subsidiary, as applicable. Subject to Section 15.8 of this Plan, and unless the Committee expressly provides otherwise, (a) Service will be deemed to continue so long as the Participant is employed by, or otherwise is providing services as a Non-Employee Director, consultant or other service provider with the Company or any Subsidiary, and (b) if a Participant’s Service relationship is with any Subsidiary and that entity ceases to be a Subsidiary, the Participant’s Service will be deemed to have terminated when the entity ceases to be a Subsidiary unless the Participant transfers Service to the Company or any remaining Subsidiary.

“Stock Appreciation Right” means a contractual right granted to an Eligible Person under Section 7 hereof entitling such Eligible Person to receive a payment, representing the excess of the Fair Market Value of a share of Common Stock over the base price per share of the right, at such time, and subject to such conditions, as are set forth in the Plan and the applicable Award Agreement.

“Stock Award” means a grant of shares of Common Stock to an Eligible Person under Section 11 hereof that are issued free of transfer restrictions and forfeiture conditions.

“Stock Option” means a contractual right granted to an Eligible Person under Section 6 hereof to purchase shares of Common Stock at such time and price, and subject to such conditions, as are set forth in the Plan and the applicable Award Agreement.

“Subsidiary” means an entity (whether or not a corporation) that is wholly or majority owned or controlled, directly or indirectly, by the Company or any other affiliate of the Company that is so designated, from time to time, by the Committee, during the period of such affiliated status; provided, however, that with respect to Incentive Stock Options, the term “Subsidiary” shall include only an entity that qualifies under Section 424(f) of the Code as a “subsidiary corporation” with respect to the Company.

3. Administration.

3.1 Committee Members. The Plan shall be administered by the Committee. To the extent deemed necessary by the Board, the Committee will be comprised of no fewer than two members of the Board who are appointed by the Board to administer the Plan and who each satisfy the requirements for (i) an “independent director” under rules adopted by NYSE or other principal exchange on which the Common Stock is then listed, (ii) a “nonemployee director” for purposes of such Rule 16b-3 under the Exchange Act and (iii) an “outside director” under Section 162(m) of the Code. Notwithstanding the foregoing, the mere fact that a Committee member shall fail to qualify under any of the foregoing requirements shall not invalidate any Award made by the Committee which Award is otherwise validly made under the Plan. Neither the Company nor any member of the Committee shall be liable for any action or determination made in good faith by the Committee with respect to the Plan or any Award thereunder. The Board shall have the authority to execute the powers of the Committee under the Plan.

3.2 Committee Authority. The Committee shall have all powers and discretion necessary or appropriate to administer the Plan and to control its operation, including, but not limited to, the power to (i) determine the Eligible Persons to whom Awards shall be granted under the Plan and to grant Awards, (ii) prescribe the restrictions, terms and conditions of all Awards, (iii) determine the form of settlement of Awards in cash, common stock, other property or a combination thereof, (iv) interpret the Plan and terms of the Awards, (v) adopt rules for the administration, interpretation and application of the Plan as are consistent therewith, and interpret, amend or revoke any such rules, (vi) make all determinations with respect to a Participant’s Service and the termination of such Service for purposes of any Award, (vii) correct any defect(s) or omission(s) or reconcile any ambiguity(ies) or inconsistency(ies) in the Plan or any Award

thereunder, (viii) make all determinations it deems advisable for the administration of the Plan; (ix) to decide all disputes arising in connection with the Plan and to otherwise supervise the administration of the Plan; (x) subject to the terms of the Plan, amend the terms of an Award in any manner that is not inconsistent with the Plan, (xi) accelerate the vesting or, to the extent applicable, exercisability of any Award at any time (including, but not limited to, upon a Change in Control or upon termination of Service under certain circumstances, as set forth in the Award Agreement or otherwise), and (xii) adopt such procedures and subplans as are necessary or appropriate to permit participation in the Plan by Eligible Person who are foreign nationals or employed outside of the United States. The Committee's determinations under the Plan need not be uniform and may be made by the Committee selectively among Participants and Eligible Persons, whether or not such persons are similarly situated. The Committee shall, in its discretion, consider such factors as it deems relevant in making its interpretations, determinations and actions under the Plan including, without limitation, the recommendations or advice of any officer or employee of the Company or such attorneys, consultants, accountants or other advisors as it may select. All interpretations, determinations, and actions by the Committee shall be final, conclusive, and binding upon all parties.

3.3 Delegation of Authority. The Committee shall have the right, from time to time, to delegate in writing to one or more of its members, members of the Board, or officers of the Company the authority of the Committee to grant and determine the terms and conditions of Awards granted under the Plan, subject to any applicable laws. In no event shall any such delegation of authority be permitted with respect to Awards granted to any member of the Board or to any Eligible Person who is subject to Rule 16b-3 under the Exchange Act or is a covered employee under Section 162(m) of the Code (as determined in accordance with applicable guidance as of the applicable date of determination). The Committee shall also be permitted to delegate, to any appropriate officer or employee of the Company, responsibility for performing certain ministerial functions under the Plan. In the event that the Committee's authority is delegated to members of the Board, officers, or employees in accordance with the foregoing, all provisions of the Plan relating to the Committee shall be interpreted in a manner consistent with the foregoing by treating any such reference as a reference to such officer or employee for such purpose. Any action undertaken in accordance with the Committee's delegation of authority hereunder shall have the same force and effect as if such action was undertaken directly by the Committee and shall be deemed for all purposes of the Plan to have been taken by the Committee.

4. Shares Subject to the Plan.

4.1 Number of Shares Reserved. Subject to adjustment as provided in Section 4.5 hereof, the total number of shares of Common Stock that are reserved for issuance under the Plan shall be 16,716,520 shares of Common Stock (the "*Share Reserve*"). The maximum number of shares of Common Stock that may be issued in satisfaction of Incentive Stock Options under the Plan is 11,000,000 shares. Upon approval of this Plan, no further awards may be made under the SIP. Each share of Common Stock subject to an Award shall reduce the Share Reserve by one share; provided that Awards that are required to be paid in cash pursuant to their terms shall not reduce the Share Reserve. Any shares of Common Stock delivered under the Plan shall consist of authorized and unissued shares or treasury shares.

4.2 Share Replenishment. To the extent that an Award granted under this Plan is canceled, expired, forfeited, surrendered, or otherwise terminated without delivery of the shares to the Participant, the shares of Common Stock retained by or returned to the Company will (i) not be deemed to have been delivered under the Plan, (ii) be available for future Awards under the Plan, and (iii) increase the Share Reserve by one share for each share that is retained by or returned to the Company. In addition to the foregoing, any shares that become available for issuance pursuant to Section 4.2 of the SIP as a result of the forfeiture, cancellation or termination for no consideration of an award under the SIP will (i) not be available for future awards under the SIP, (ii) be available for future Awards under this Plan, and (iii) increase the Share Reserve by one share for each share that is retained by or returned to the Company, subject to a maximum of 6,966,000 shares (subject to adjustment pursuant to Section 4.5).

4.3 Non-Cash Awards Granted to Eligible Persons Other Than Non-Employee Directors. The maximum number of shares of Common Stock that may be subject to each Award type that is granted to an Eligible Person other than a Non-Employee Director during any calendar year shall be limited as follows (subject to adjustment as provided in Section 4.5 hereof): (i) 1,000,000 shares of Common Stock subject to Stock Options, (ii) 1,000,000 shares of Common Stock subject to Stock Appreciation Rights, (iii) 1,000,000 shares of Common Stock subject to Restricted Stock Awards that vest in full

or in part based on the attainment of Performance Goals, (iv) 750,000 shares of Common Stock subject to Restricted Stock Awards that vest in full or in part based on continued employment over a stated period of time, (v) 1,000,000 shares of Common Stock subject to Restricted Stock Units that vest in full or in part based on the attainment of Performance Goals, (vi) 750,000 shares of Common Stock subject to Restricted Stock Units that vest in full or in part based on continued employment over a stated period of time and (vii) 250,000 shares of Common Stock subject to Stock Awards. If an Award is settled in cash, the number of shares of Common Stock on which the Award is based shall not count toward the individual share limit set forth in this Section 4.3, but shall count against the annual Cash Performance Award limit set forth in Section 10.6.

4.4 Non-Cash Awards Granted to Non-Employee Directors. The maximum number of shares of Common Stock that may be subject to Stock Options, Stock Appreciation Rights, Restricted Stock Awards, Restricted Stock Units and Stock Awards granted to any Non-Employee Director during any calendar year shall be limited to 250,000 shares of Common Stock for all such Award types in the aggregate (subject to adjustment as provided in Section 4.5 hereof). If an Award is settled in cash, the number of shares of Common Stock on which the Award is based shall not count toward the individual share limit set forth in this Section 4.4 but shall count against the annual Cash Performance Award limit set forth in Section 10.6.

4.5 Adjustments. If there shall occur any change with respect to the outstanding shares of Common Stock by reason of any recapitalization, reclassification, stock dividend, extraordinary cash dividend, stock split, reverse stock split or other distribution with respect to the shares of Common Stock or any merger, reorganization, consolidation, combination, spin-off, stock purchase or other similar corporate change or any other change affecting the Common Stock (other than regular cash dividends to shareholders of the Company), the Committee shall, in the manner and to the extent it considers appropriate and equitable to the Participants and consistent with the terms of the Plan, cause an adjustment to be made to (i) the maximum number and kind of shares of Common Stock provided in Sections 4.1, 4.3 and 4.4 hereof (including the maximum number of shares of Common Stock that may become payable to a Participant provided in Sections 4.3 and 4.4 hereof), (ii) the number and kind of shares of Common Stock, units or other rights subject to then outstanding Awards, (iii) the exercise or base price for each share or unit or other right subject to then outstanding Awards, (iv) the maximum amount that may become payable to a Participant under Cash Awards provided in Section 10.6 hereof, and (v) any other terms of an Award that are affected by the event. Notwithstanding the foregoing, any such adjustments shall be made with due regard for the requirements of Section 409A of the Code, and the qualification of Incentive Stock Options under Section 424(a) of the Code, to the extent applicable.

5. Eligibility and Awards.

5.1 Designation of Participants. Any Eligible Person may be selected by the Committee to receive an Award and become a Participant. The Committee has the authority, in its discretion, to determine and designate from time to time those Eligible Persons who are to be granted Awards, the types of Awards to be granted, the number of shares of Common Stock or units subject to Awards to be granted and the terms and conditions of such Awards consistent with the terms of the Plan, and to grant any such Awards. In selecting Eligible Persons to be Participants, and in determining the type and amount of Awards to be granted under the Plan, the Committee shall consider any and all factors that it deems relevant or appropriate. Designation of a Participant in any year shall not require the Committee to designate such person to receive an Award in any other year or, once designated, to receive the same type or amount of Award as granted to such Participant in any other year.

5.2 Determination of Awards. The Committee shall determine the terms and conditions of all Awards granted to Participants in accordance with its authority under Section 3.2 hereof. An Award may consist of one type of right or benefit hereunder or of two or more such rights or benefits granted in tandem.

5.3 Award Agreements. Each Award granted to an Eligible Person shall be represented by an Award Agreement. The terms of all Awards under the Plan, as determined by the Committee, will be set forth in each individual Award Agreement as described in Section 15.2 hereof.

6. Stock Options.

6.1 *Grant of Stock Options.* A Stock Option may be granted to any Eligible Person selected by the Committee, except that an Incentive Stock Option may only be granted to an Eligible Person satisfying the conditions of Section 6.7(a) hereof. Each Stock Option shall be designated on the Date of Grant, in the discretion of the Committee, as an Incentive Stock Option or as a Nonqualified Stock Option. To the extent a Stock Option is not so designated, it shall be treated for all purposes as a Nonqualified Stock Option.

6.2 *Exercise Price.* The exercise price per share of a Stock Option shall not be less than one hundred percent (100%) of the Fair Market Value of a share of Common Stock on the Date of Grant. The Committee may in its discretion specify an exercise price per share that is higher than the Fair Market Value of a share of Common Stock on the Date of Grant.

6.3 *Vesting of Stock Options.* The Committee shall, in its discretion, prescribe the time or times at which or the conditions upon which, a Stock Option or portion thereof shall become vested and/or exercisable. The requirements for vesting and exercisability of a Stock Option may be based on the continued Service of the Participant with the Company or a Subsidiary for a specified time period (or periods), on the attainment of a specified Performance Goal(s) or on such other terms and conditions as approved by the Committee in its discretion, all as set forth in the Award Agreement. If the vesting requirements of a Stock Option are not satisfied, the Award shall be forfeited.

6.4 *Term of Stock Options.* The Committee shall in its discretion prescribe in an Award Agreement the period during which a vested Stock Option may be exercised; provided, however, that the maximum term of a Stock Option shall be ten (10) years from the Date of Grant. The Committee may provide that a Stock Option will cease to be exercisable upon or at the end of a specified time period following a termination of Service for any reason as set forth in the Award Agreement or otherwise. Subject to Section 409A of the Code and the provisions of this Section 6, the Committee may extend at any time the period in which a Stock Option may be exercised.

6.5 *Stock Option Exercise; Tax Withholding.* Subject to such terms and conditions as specified in an Award Agreement, a Stock Option may be exercised in whole or in part at any time during the term thereof by notice in the form required by the Company, together with payment of the aggregate exercise price and applicable withholding tax. Payment of the exercise price may be made: (i) in cash or by cash equivalent acceptable to the Committee or (ii) to the extent permitted by the Committee in its sole discretion and set forth in the Award Agreement or otherwise (including by a policy or resolution of the Committee), (A) in shares of Common Stock valued at the Fair Market Value of such shares on the date of exercise, (B) through an open-market, broker-assisted sales transaction pursuant to which the Company is promptly delivered the amount of proceeds necessary to satisfy the exercise price, (C) by reducing the number of shares of Common Stock otherwise deliverable upon the exercise of the Stock Option by the number of shares of Common Stock having a Fair Market Value on the date of exercise equal to the exercise price, (D) by a combination of the methods described above or (E) by such other method as may be approved by the Committee and set forth in the Award Agreement. In addition to and at the time of payment of the exercise price, the Participant shall pay to the Company the full amount of any and all applicable income tax, employment tax and other amounts required to be withheld in connection with such exercise, payable under such of the methods described above for the payment of the exercise price as may be approved by the Committee and set forth in the Award Agreement.

6.6 *Limited Transferability of Nonqualified Stock Options.* All Nonqualified Stock Options shall be exercisable during the Participant's lifetime only by the Participant or by the Participant's guardian or legal representative. The Nonqualified Stock Options and the rights and privileges conferred thereby shall be nontransferable except as otherwise provided in Section 15.3 hereof.

6.7 Additional Rules for Incentive Stock Options.

(a) *Eligibility.* An Incentive Stock Option may only be granted to an Eligible Person who is considered an employee for purposes of Treasury Regulation §1.421-1(h) with respect to the Company or any Subsidiary that qualifies as a "subsidiary corporation" with respect to the Company for purposes of Section 424(f) of the Code.

(b) *Annual Limits.* No Incentive Stock Option shall be granted to a Participant as a result of which the aggregate Fair Market Value (determined as of the Date of Grant) of the Common Stock with respect to which Incentive Stock Options under Section 422 of the Code are exercisable for the first time in any calendar year under the Plan and any other stock option plans of the Company or any subsidiary or parent corporation, would exceed \$100,000, determined in accordance with Section 422(d) of the Code. This limitation shall be applied by taking such Incentive Stock Options into account in the order in which they were granted.

(c) *Additional Limitations.* In the case of any Incentive Stock Option granted to an Eligible Person who owns, either directly or indirectly (taking into account the attribution rules contained in Section 424(d) of the Code), stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Subsidiary, the exercise price shall not be less than one hundred ten percent (110%) of the Fair Market Value of a share of Common Stock on the Date of Grant and the maximum term shall be five (5) years.

(d) *Termination of Employment.* An Award of an Incentive Stock Option may provide that such Stock Option may be exercised not later than (i) three (3) months following termination of employment of the Participant with the Company and all Subsidiaries (other than as set forth in clause (ii) of this Section 6.7(d)) or (ii) one year following termination of employment of the Participant with the Company and all Subsidiaries due to death or permanent and total disability within the meaning of Section 22(e)(3) of the Code, in each case as and to the extent determined by the Committee to comply with the requirements of Section 422 of the Code.

(e) *Other Terms and Conditions; Nontransferability.* No Incentive Stock Options granted under the Plan may be granted more than ten (10) years following the date that the Plan is adopted or the date that the Plan is approved by the Company's stockholders, whichever is earlier. The Award Agreement representing any Incentive Stock Option granted hereunder shall contain such additional terms and conditions, not inconsistent with the terms of the Plan, as are deemed necessary or desirable by the Committee, which terms, together with the terms of the Plan, shall be intended and interpreted to cause such Incentive Stock Option to qualify as an "incentive stock option" under Section 422 of the Code. A Stock Option that is granted as an Incentive Stock Option shall, to the extent it fails to qualify as an "incentive stock option" under the Code, be treated as a Nonqualified Stock Option. An Incentive Stock Option shall by its terms be nontransferable other than by will or by the laws of descent and distribution, and shall be exercisable during the lifetime of a Participant only by such Participant. Nothing herein shall limit the ability of the Committee to take an action otherwise permitted by the Plan even if such action would result in an Incentive Stock Option failing to qualify as one.

(f) *Disqualifying Dispositions.* If shares of Common Stock acquired by exercise of an Incentive Stock Option are disposed of within two years following the Date of Grant or one year following the transfer of such shares to the Participant upon exercise, the Participant shall, promptly following such disposition, notify the Company in writing of the date and terms of such disposition and provide such other information regarding the disposition as the Company may reasonably require.

6.8 Repricing Prohibited. Except as provided in Sections 4.5 and 12 hereof, without the prior approval of the Company's stockholders, neither the Committee nor the Board shall cancel a Stock Option when the exercise price per share exceeds the Fair Market Value of one share of Common Stock in exchange for cash or another Award (other than in connection with a Change in Control) or cause the cancellation, substitution or amendment of a Stock Option that would have the effect of reducing the exercise price of such a Stock Option previously granted under the Plan or otherwise approve any modification to such a Stock Option that would be treated as a "repricing" under the then applicable rules, regulations or listing requirements adopted by NYSE or any other principal exchange on which the Common Stock is then listed.

6.9 Dividend Equivalent Rights. Subject to the anti-dilution adjustment provisions contained in Section 4.5 hereof, dividends shall not be paid with respect to Stock Options. Dividend equivalent rights shall be granted with respect to the shares of Common Stock subject to Stock Options to the extent permitted by the Committee or set forth in the Award Agreement.

7. Stock Appreciation Rights.

7.1 *Grant of Stock Appreciation Rights.* Stock Appreciation Rights may be granted to any Eligible Person selected by the Committee. Stock Appreciation Rights may be granted on a basis that allows for the exercise of the right by the Participant or that provides for the automatic payment of the right upon a specified date or event. Stock Appreciation Rights shall be non-transferable, except as provided in Section 15.3 hereof.

7.2 *Stand-Alone and Tandem Stock Appreciation Rights.* A Stock Appreciation Right may be granted without any related Stock Option, or may be granted in tandem with a Stock Option, either on the Date of Grant or at any time thereafter during the term of the Stock Option. The Committee shall in its discretion provide in an Award Agreement the time or times at which or the conditions upon which, a Stock Appreciation Right or portion thereof shall become vested and/or exercisable. The requirements for vesting and exercisability of a Stock Appreciation Right may be based on the continued Service of a Participant with the Company or a Subsidiary for a specified time period (or periods), on the attainment of a specified Performance Goal(s) or on such other terms and conditions as approved by the Committee in its discretion. If the vesting requirements of a Stock Appreciation Right are not satisfied, the Award shall be forfeited. A Stock Appreciation Right will be exercisable or payable at such time or times as determined by the Committee; provided, that the maximum term of a Stock Appreciation Right shall be ten (10) years from the Date of Grant. The Committee may provide that a Stock Appreciation Right will cease to be exercisable upon or at the end of a period following a termination of Service for any reason. The base price of a Stock Appreciation Right granted without any related Stock Option shall be determined by the Committee in its discretion; provided, however, that the base price per share of any such stand-alone Stock Appreciation Right shall not be less than one hundred percent (100%) of the Fair Market Value of a share of Common Stock on the Date of Grant.

7.3 *Payment of Stock Appreciation Rights.* A Stock Appreciation Right will entitle the holder, upon exercise or other payment of the Stock Appreciation Right, as applicable, to receive an amount determined by multiplying: (i) the excess of the Fair Market Value of a share of Common Stock on the date of exercise or payment of the Stock Appreciation Right over the base price of such Stock Appreciation Right, by (ii) the number of shares as to which such Stock Appreciation Right is exercised or paid. Payment of the amount determined under the foregoing may be made, as approved by the Committee and set forth in the Award Agreement, in shares of Common Stock valued at their Fair Market Value on the date of exercise or payment, in cash or in a combination of shares of Common Stock and cash, subject to applicable tax withholding requirements.

7.4 *Repricing Prohibited.* Except as provided in Sections 4.5 and 12 hereof, without the prior approval of the Company's stockholders, neither the Committee nor the Board shall cancel a Stock Appreciation Right when the base price per share exceeds the Fair Market Value of one share of Common Stock in exchange for cash or another Award (other than in connection with a Change in Control) or cause the cancellation, substitution or amendment of a Stock Appreciation Right that would have the effect of reducing the base price of such a Stock Appreciation Right previously granted under the Plan or otherwise approve any modification to such Stock Appreciation Right that would be treated as a "repricing" under the then applicable rules, regulations or listing requirements adopted by NYSE or any other principal exchange on which the Common Stock is then listed.

7.5 *Dividend Equivalent Rights.* Subject to the anti-dilution adjustment provisions contained in Section 4.5 hereof, dividends shall not be paid with respect to Stock Appreciation Rights. Dividend equivalent rights shall be granted with respect to the shares of Common Stock subject to Stock Appreciation Rights to the extent permitted by the Committee or set forth in the Award Agreement.

8. Restricted Stock Awards.

8.1 *Grant of Restricted Stock Awards.* A Restricted Stock Award may be granted to any Eligible Person selected by the Committee. The Committee may require the payment by the Participant of a specified purchase price in connection with any Restricted Stock Award.

8.2 *Vesting Requirements.* The restrictions imposed on shares granted under a Restricted Stock Award shall lapse in accordance with the vesting requirements specified by the Committee in the Award Agreement. The requirements for vesting of a Restricted Stock Award may be based on the continued Service of the Participant with the Company or a

Subsidiary for a specified time period (or periods), on the attainment of a specified Performance Goal(s), or on such other terms and conditions as approved by the Committee in its discretion. If the vesting requirements of a Restricted Stock Award shall not be satisfied or, if applicable, the Performance Goal(s) with respect to such Restricted Stock Award are not attained, the Award shall be forfeited and the shares of Stock subject to the Award shall be returned to the Company.

8.3 *Transfer Restrictions.* Shares granted under any Restricted Stock Award may not be transferred, assigned or subject to any encumbrance, pledge or charge until all applicable restrictions are removed or have expired, except as provided in Section 15.3 hereof. Failure to satisfy any applicable restrictions shall result in the subject shares of the Restricted Stock Award being forfeited and returned to the Company. The Committee may require in an Award Agreement that certificates (if any) representing the shares granted under a Restricted Stock Award bear a legend making appropriate reference to the restrictions imposed, and that certificates (if any) representing the shares granted or sold under a Restricted Stock Award will remain in the physical custody of an escrow holder until all restrictions are removed or have expired.

8.4 *Rights as Stockholder.* Subject to the foregoing provisions of this Section 8 and the applicable Award Agreement, the Participant shall have all rights of a stockholder with respect to the shares granted to the Participant under a Restricted Stock Award, including the right to vote the shares and receive all dividends and other distributions paid or made with respect thereto, unless otherwise provided in the applicable Award Agreement or the Committee determines otherwise at the time the Restricted Stock Award is granted. The Committee may provide in an Award Agreement for the payment of dividends and distributions to the Participant at such times as paid to stockholders generally, at the times of vesting or other payment of the Restricted Stock Award or otherwise.

8.5 *Section 83(b) Election.* If a Participant makes an election pursuant to Section 83(b) of the Code with respect to a Restricted Stock Award, the Participant shall file, within thirty (30) days following the Date of Grant, a copy of such election with the Company and with the Internal Revenue Service, in accordance with the regulations under Section 83 of the Code. The Committee may provide in an Award Agreement that the Restricted Stock Award is conditioned upon the Participant's making or refraining from making an election with respect to the Award under Section 83(b) of the Code.

9. Restricted Stock Units.

9.1 *Grant of Restricted Stock Units.* A Restricted Stock Unit may be granted to any Eligible Person selected by the Committee. The value of each Restricted Stock Unit is equal to the Fair Market Value of the Common Stock on the applicable date or time period of determination, as specified by the Committee. Restricted Stock Units shall be subject to such restrictions and conditions as the Committee shall determine. In addition, a Restricted Stock Unit may be designated as a "Performance Stock Unit", the vesting requirements of which may be based, in whole or in part, on the attainment of pre-established business and/or individual Performance Goal(s) over a specified performance period, as approved by the Committee in its discretion. Restricted Stock Units shall be non-transferable, except as provided in Section 15.3 hereof.

9.2 *Vesting of Restricted Stock Units.* On the Date of Grant, the Committee shall, in its discretion, determine any vesting requirements with respect to Restricted Stock Units, which shall be set forth in the Award Agreement. The requirements for vesting of a Restricted Stock Unit may be based on the continued Service of the Participant with the Company or a Subsidiary for a specified time period (or periods) or on such other terms and conditions as approved by the Committee (including Performance Goal(s)) in its discretion. If the vesting requirements of a Restricted Stock Units Award are not satisfied, the Award shall be forfeited.

9.3 *Payment of Restricted Stock Units.* Restricted Stock Units shall become payable to a Participant at the time or times determined by the Committee and set forth in the Award Agreement, which may be upon or following the vesting of the Award. Payment of a Restricted Stock Unit may be made, as approved by the Committee and set forth in the Award Agreement, in cash or in shares of Common Stock or in a combination thereof, subject to applicable tax withholding requirements. Any cash payment of a Restricted Stock Unit shall be made based upon the Fair Market Value of the Common Stock.

9.4 Dividend Equivalent Rights. Subject to the anti-dilution adjustment provisions contained in Section 4.5 hereof, Restricted Stock Units may or may not, in the discretion of the Committee, be granted together with a dividend equivalent right with respect to the shares of Common Stock subject to the Award, which may be accumulated and may be deemed reinvested in additional Restricted Stock Units or may be accumulated in cash, as determined by the Committee in its discretion. Dividend equivalent rights will be paid at such times as determined by the Committee in its discretion (including without limitation at the times paid to stockholders generally or at the times of vesting or payment of the Restricted Stock Unit). Dividend equivalent rights may be subject to forfeiture under the same conditions as apply to the underlying Restricted Stock Units.

10. Cash Awards and Performance Awards; Performance Criteria.

10.1 Grant of Cash Awards and Performance Awards. A Cash Award may be granted to any Eligible Person selected by the Committee. Payment amounts may be based on specified levels of attainment with respect to the Performance Goals, including, if applicable, specified threshold, target and maximum performance levels. The requirements for payment may be also based upon the continued Service of the Participant with the Company or a Subsidiary during the respective performance period and on such other conditions as determined by the Committee and set forth in an Award Agreement. With respect to Performance Awards, before the ninetieth (90th) day of the applicable performance period (or, if the performance period is less than one year, no later than the number of days which is equal to twenty-five percent (25%) of such performance period), the Committee will determine the duration of the performance period, the Performance Criteria, the applicable Performance Goals relating to the Performance Criteria, and the amount and terms of payment and/or vesting upon achievement of the Performance Goals. Cash Awards shall be non-transferable, except as provided in Section 15.3 hereof.

10.2 Award Agreements. Each Cash Award shall be evidenced by an Award Agreement that shall specify the terms and conditions of the Award as the Committee, in its discretion, shall determine.

10.3 Performance Criteria. For purposes of Performance Awards, the Performance Criteria shall be one or any combination of the following, for the Company or any identified Subsidiary or business unit, as determined by the Committee: (a) net earnings; (b) earnings per share; (c) net debt; (d) revenue or sales growth; (e) net or operating income; (f) net operating profit; (g) return measures (including, but not limited to, return on assets, capital, equity or sales); (h) cash flow (including, but not limited to, operating cash flow, distributable cash flow and free cash flow); (i) earnings before or after taxes, interest, depreciation, amortization and/or rent; (j) share price (including, but not limited to growth measures and total or relative stockholder return); (k) expense control or loss management; (l) customer satisfaction; (m) market share; (n) economic value added; (o) working capital; (p) the formation of joint ventures or the completion of other corporate transactions; (q) gross or net profit margins; (r) revenue mix; (s) operating efficiency; (t) product diversification; (u) market penetration; (v) measurable achievement in quality, operation or compliance initiatives; (w) quarterly dividends or distributions; (x) employee retention or turnover; or (y) any combination of or a specified increase in any of the foregoing. Each of the Performance Criteria shall be applied and interpreted in accordance with an objective formula or standard established by the Committee at the time the applicable Award is granted including, without limitation, GAAP.

10.4 Performance Goals. For purposes of Performance Awards, the “Performance Goals” shall be the levels of achievement relating to the Performance Criteria selected by the Committee for the Award. For purposes of Performance Awards, the Performance Goals shall be written and shall be expressed as an objective formula or standard that precludes discretion to increase the amount of compensation payable that would otherwise be due upon attainment of the goal. The Performance Goals may be applied on an absolute basis or relative to an identified index, peer group, or one or more competitors or other companies (including particular business segments or divisions or such companies), as specified by the Committee. The Performance Goals need not be the same for all Participants.

10.5 Adjustments. At the time that an Award is granted, the Committee may provide for the Performance Goals or the manner in which performance will be measured against the Performance Goals to be adjusted in such objective manner as it deems appropriate, including, without limitation, adjustments to reflect charges for restructurings, non-operating income, the impact of corporate transactions or discontinued operations, extraordinary and other unusual or non-recurring items and the cumulative effects of accounting or tax law changes. In addition, with respect to a Participant

hired or promoted following the beginning of a performance period, the Committee may determine to prorate the Performance Goals and/or the amount of any payment in respect of such Participant's Awards for the partial performance period.

10.6 *Maximum Amount of Cash Awards.* The maximum amount that may become payable to any one Participant during any one calendar year under all Cash Awards is limited to \$15,000,000.

10.7 *Negative Discretion.* Notwithstanding anything else contained in the Plan to the contrary, the Committee shall, to the extent provided in an Award Agreement, have the right, in its discretion, (i) to reduce or eliminate the amount otherwise payable to any Participant under an Award and (ii) to establish rules or procedures that have the effect of limiting the amount payable to any Participant to an amount that is less than the amount that otherwise would be payable under an Award. The Committee may exercise such discretion in a non-uniform manner among Participants. The Committee shall not have discretion to increase the amount that otherwise would be payable to any Participant under a Performance Award.

10.8 *Certification.* Following the conclusion of the performance period of a Performance Award, the Committee shall certify in writing whether the Performance Goals for that performance period have been achieved, or certify the degree of achievement, if applicable.

10.9 *Payment.* Upon certification of the Performance Goals for a Performance Award, the Committee shall determine the level of vesting or amount of payment to the Participant pursuant to the Award, if any. Notwithstanding the foregoing, Cash Awards may be paid, at the discretion of the Committee, in any combination of cash or shares of Common Stock, based upon the Fair Market Value of such shares at the time of payment (with the limit set forth in Section 10.6 applying, valuing any shares delivered based on their then Fair Market Value).

11. Stock Awards.

11.1 *Grant of Stock Awards.* A Stock Award may be granted to any Eligible Person selected by the Committee. A Stock Award may be granted for past Service, in lieu of bonus or other cash compensation, as directors' compensation or for any other valid purpose as determined by the Committee. The Committee shall determine the terms and conditions of such Awards, and such Awards may be made without vesting requirements. In addition, the Committee may, in connection with any Stock Award, require the payment of a specified purchase price.

11.2 *Rights as Stockholder.* Subject to the foregoing provisions of this Section 11 and the applicable Award Agreement, upon the issuance of the Common Stock under a Stock Award the Participant shall have all rights of a stockholder with respect to the shares of Common Stock, including the right to vote the shares and receive all dividends and other distributions paid or made with respect thereto.

12. Change in Control.

12.1 *Effect on Awards.* Upon the occurrence of a Change in Control, unless otherwise provided in the Award Agreement, the Committee is authorized (but not obligated) to make adjustments in the terms and conditions of outstanding Awards, including without limitation the following (or any combination thereof): (a) continuation or assumption of such outstanding Awards under the Plan by the Company (if it is the surviving company or corporation) or by the surviving company or corporation or its parent; (b) substitution by the surviving company or corporation or its parent of awards with substantially the same terms for outstanding Awards (with appropriate adjustments to the type of consideration payable upon settlement of the Awards); (c) accelerated exercisability, vesting and/or payment under outstanding Awards immediately prior to or upon the occurrence of such event or upon a termination of employment following such event; and (d) if all or substantially all of the Company's outstanding shares of Common Stock transferred in exchange for cash consideration in connection with such Change in Control: (i) upon written notice, provide that any outstanding Stock Options and Stock Appreciation Rights are exercisable during a reasonable period of time immediately prior to the scheduled consummation of the event or such other reasonable period as determined by the Committee (contingent upon the consummation of the event), and at the end of such period, such Stock Options and Stock Appreciation Rights shall terminate to the extent not so exercised within the relevant period; and (ii) cancellation of some or all or any portion of outstanding Awards in exchange for a payment (in the form of cash, shares, other property

or any combination thereof as determined by the Committee) equal, in the case of each affected Award or portion thereof, to the excess, if any, of (A) the Fair Market Value of one share of Common Stock times the number of shares of Common Stock subject to the Award or such portion, over (B) the aggregate exercise or purchase price, if any, under the Award or such portion (in the case of a Stock Appreciation Right, the aggregate base value above which appreciation is measured), in each case on such payment terms (which need not be the same as the terms of payment to holders of Common Stock) and other terms, and subject to such conditions, as the Committee determines; *provided, however*, for the avoidance of doubt, that if the exercise or purchase price (or base value) of an Award is equal to or greater than the Fair Market Value of one share of Common Stock, the Award may be cancelled with no payment due hereunder or otherwise in respect of such Award.

12.2 Definition of Change in Control. Unless otherwise defined in an Award Agreement, “*Change in Control*” shall mean the occurrence of one of the following events:

(a) Any Person, becomes the Beneficial Owner, directly or indirectly, of more than fifty percent (50%) of the combined voting power, excluding any Person who holds fifty percent (50%) or more of the voting power on the Effective Date of the Plan (the “*Initial Owners*”), of the then outstanding voting securities of the Company entitled to vote generally in the election of its directors (the “*Outstanding Company Voting Securities*”) including by way of merger, consolidation or otherwise; *provided, however*, that for purposes of this definition, the following acquisitions shall not constitute a Change in Control: (i) any acquisition of voting securities of the Company directly from the Company, including without limitation, a Public Offering of securities; (ii) any acquisition by the Company or any of its Subsidiaries of Outstanding Company Voting Securities, including an acquisition by any employee benefit plan or related trust sponsored or maintained by the Company or any of its Subsidiaries; or (iii) any acquisition after which the Initial Owners and their affiliates remain the Beneficial Owners of more Outstanding Voting Securities than any other Person.

(b) Consummation of a reorganization, merger, or consolidation to which the Company is a party or a sale or other disposition of all or substantially all of the assets of the Company (a “*Business Combination*”), unless, following such Business Combination: (i) any individuals and entities that were the Beneficial Owners of Outstanding Company Voting Securities immediately prior to such Business Combination are the Beneficial Owners, directly or indirectly, of more than fifty percent (50%) of the combined voting power of the outstanding voting securities entitled to vote generally in the election of directors (or election of members of a comparable governing body) of the entity resulting from the Business Combination (including, without limitation, an entity which as a result of such transaction owns all or substantially all of the Company or all or substantially all of the Company’s assets either directly or through one or more Subsidiaries) (the “*Successor Entity*”) in substantially the same proportions as their ownership immediately prior to such Business Combination; (ii) no Person (excluding any Successor Entity or any employee benefit plan or related trust of the Company, such Successor Entity, or any of their Subsidiaries) is the Beneficial Owner, directly or indirectly, of more than fifty percent (50%) of the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors (or comparable governing body) of the Successor Entity, except to the extent that such ownership existed prior to the Business Combination; and (iii) at least a majority of the members of the board of directors (or comparable governing body) of the Successor Entity were incumbent Directors (including persons deemed to be incumbent Directors) at the time of the execution of the initial agreement or of the action of the Board providing for such Business Combination.

Notwithstanding the foregoing, to the extent necessary to comply with Section 409A of the Code with respect to the payment of “nonqualified deferred compensation,” “Change in Control” shall be limited to a “change in control event” as defined under Section 409A of the Code. For the avoidance of doubt, neither a Public Offering nor any changes to the size or members of the Board in connection with or as a result of a public offering shall constitute or be deemed to result in a Change in Control.

13. Forfeiture Events.

13.1 General. The Committee may specify in an Award Agreement at the time of the Award that the Participant’s rights, payments and benefits with respect to an Award shall be subject to reduction, cancellation, forfeiture or

recoupment upon the occurrence of certain specified events, in addition to any otherwise applicable vesting or performance conditions of an Award. Such events may include, but shall not be limited to, termination of Service for Cause, violation of material Company policies, breach of noncompetition, confidentiality or other restrictive covenants that may apply to the Participant or other similar conduct by the Participant that is detrimental to the business or reputation of the Company.

13.2 Termination for Cause.

(a) *Treatment of Awards.* Unless otherwise provided by the Committee and set forth in an Award Agreement, the following rules will apply if a Participant's Service ceases:

(i) Except as provided in (ii) and (iii) below, immediately upon the cessation of the Participant's Service each Stock Option and Stock Appreciation Right that is then held by the Participant or by the Participant's permitted transferees, if any, will cease to be exercisable and will terminate and all other Awards that are then held by the Participant or by the Participant's permitted transferees, if any, to the extent not already vested will be forfeited.

(ii) Subject to (iii) and (iv) below, all Stock Options and Stock Appreciation Rights held by the Participant or the Participant's permitted transferees, if any, immediately prior to the cessation of the Participant's Service, to the extent then exercisable, will remain exercisable for the lesser of (i) a period of three months or (ii) the period ending on the latest date on which such Stock Option or Stock Appreciation Right could have been exercised without regard to this Section 13.2(a), and will thereupon immediately terminate.

(iii) Subject to (iv) below, all Stock Options and Stock Appreciation Rights held by a Participant or the Participant's permitted transferees, if any, immediately prior to the Participant's death, to the extent then exercisable, will remain exercisable for the lesser of (i) the one year period ending with the first anniversary of the Participant's death or (ii) the period ending on the latest date on which such Stock Option or Stock Appreciation Right could have been exercised without regard to this Section 13.2(a), and will thereupon immediately terminate.

(iv) All Stock Options and Stock Appreciation Rights (whether or not exercisable) held by a Participant or the Participant's permitted transferees, if any, immediately prior to the cessation of the Participant's Service will immediately terminate upon such cessation of Service if the termination is for Cause or occurs in circumstances that in the determination of the Committee would have constituted grounds for the Participant's Service to be terminated for Cause.

(b) *Post-Termination Breaches.* Unless otherwise provided by the Committee and set forth in an Award Agreement, if (i) a Participant's Service with the Company or any Subsidiary is terminated for Cause or (ii) within one (1) year following termination of Service for any other reason, the Committee determines in its discretion that, after termination, the Participant breached any of the material terms contained in any non-competition agreement, confidentiality agreement or similar restrictive covenant agreement to which such Participant is a party, such Participant's rights, payments and benefits with respect to an Award shall be subject to cancellation, forfeiture and/or recoupment, as provided in Section 13.3 below. The Company shall have the power to determine whether the Participant has been terminated for Cause, the date upon which such termination for Cause occurs and whether the Participant engaged in conduct that violated any continuing obligation or duty of the Participant in respect of the Company or any Subsidiary. Any such determination shall be final, conclusive and binding upon all Persons. In addition, if the Company shall reasonably determine that a Participant has committed or may have committed any act which could constitute the basis for a termination of such Participant's Service for Cause or violates any continuing obligation or duty of the Participant in respect of the Company or any Subsidiary, the Company may suspend the Participant's rights to exercise any Stock Option or Stock Appreciation Right, receive any payment or vest in any right with respect to any Award pending a determination by the Company of whether an act or omission could constitute the basis for a termination for Cause as provided in this Section 13.2.

(c) *Definition of Cause.* Unless otherwise defined in an Award Agreement, “Cause” shall mean:

(i) the Participant has committed a deliberate and premeditated act against the interests of the Company including, without limitation: an act of fraud, embezzlement, misappropriation or breach of fiduciary duty against the Company, including, but not limited to, the offer, payment, solicitation or acceptance of any unlawful bribe or kickback with respect to the Company’s business; or

(ii) the Participant has been convicted by a court of competent jurisdiction of, or pleaded guilty or nolo contendere to, any felony or any crime involving moral turpitude; or

(iii) the Participant has failed to perform or neglected the material duties incident to his or her employment or other engagement with the Company on a regular basis, and such refusal or failure shall have continued for a period of twenty (20) days after written notice to the Participant specifying such refusal or failure in reasonable detail; or

(iv) the Participant has been chronically absent from work (excluding vacations, illnesses, Disability or leaves of absence approved by the Company); or

(v) the Participant has refused, after explicit written notice, to obey any lawful resolution of or direction by the Board which is consistent with the duties incident to his or her employment or other engagement with the Company and such refusal continues for more than twenty (20) days after written notice is given to the Participant specifying such refusal in reasonable detail; or

(vi) the Participant has breached any of the material terms contained in any employment agreement, non-competition agreement, confidentiality agreement or similar type of agreement to which such Participant is a party; or

(vii) the Participant has engaged in (x) the unlawful use (including being under the influence) or possession of illegal drugs on the Company’s premises or (y) habitual drunkenness on the Company’s premises.

Any voluntary termination of employment or other engagement by the Participant in anticipation of an involuntary termination of the Participant’s Service for Cause shall be deemed to be a termination for “Cause.” Notwithstanding the foregoing, in the event that a Participant is party to an employment, severance or similar agreement with the Company or any of its affiliates and such agreement contains a definition of “Cause,” the definition of “Cause” set forth above shall be deemed replaced and superseded, with respect to such Participant, by the definition of “Cause” used in such employment, severance or similar agreement for so long as such agreement remains in effect.

13.3 Right of Recapture.

(a) *General.* If at any time within one (1) year (or such longer time specified in an Award Agreement or other agreement with a Participant) after the date on which a Participant exercises a Stock Option or Stock Appreciation Right or on which a Stock Award, Restricted Stock Award or Restricted Stock Unit vests or becomes payable or on which a Cash Award is paid to a Participant, or on which income otherwise is realized by a Participant in connection with an Award, (i) a Participant’s Service is terminated for Cause or (ii) after a Participant’s Service otherwise terminates for any other reason, the Committee determines in its discretion that, after termination, the Participant breached any of the material terms contained in any non-competition agreement, confidentiality agreement, severance agreement, or similar restrictive covenant agreement to which such Participant is a party, then any gain realized by the Participant from the exercise, vesting, payment or other realization of income by the Participant in connection with an Award, shall be paid by the Participant to the Company upon notice from the Company, subject to applicable state law. Such gain shall be determined as of the date or dates on which the gain is realized by the Participant, without regard to any subsequent change in the Fair Market Value of a share of Common Stock. To the extent not otherwise prohibited by law, the Company shall have the right to offset such gain against any amounts otherwise owed to the Participant by the Company (whether as wages, vacation pay or pursuant to any benefit plan or other compensatory arrangement).

(b) *Forfeiture or Clawback of Awards Under Applicable Law and Company Policy.* If the Company is required to prepare an accounting restatement due to the material noncompliance of the Company, as a result of misconduct, with any financial reporting requirement under the securities laws, then any Participant who is one of the individuals subject to automatic forfeiture under Section 304 of the Sarbanes-Oxley Act of 2002 will reimburse the Company for the amount of any Award received by such individual under this Plan during the 12-month period following the first public issuance or filing with the Securities and Exchange Commission, as the case may be, of the financial document embodying such financial reporting requirement. The Company also may seek to recover any Award made as required by the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act or any other clawback, forfeiture or recoupment provision required by applicable law or under the requirements of any stock exchange or market upon which the shares of Common Stock are then listed or traded. In addition, all Awards under this Plan will be subject to forfeiture or other penalties pursuant to any clawback or forfeiture policy of the Company, as in effect from time to time, and such forfeiture and/or penalty conditions or provisions as determined by the Committee and set forth in the applicable Award Agreement.

14. Transfer, Leave of Absence, Etc. For purposes of the Plan, except as otherwise determined by the Committee, the following events shall not be deemed a termination of employment: (a) a transfer of a Participant's employment to the Company from a Subsidiary or from the Company to a Subsidiary, or from one Subsidiary to another; or (b) an approved leave of absence for military service or sickness, or for any other purpose approved by the Company, if the employee's right to re-employment is guaranteed either by a statute or by contract or under the policy pursuant to which the leave of absence was granted or if the Committee otherwise so provides in writing.

15. General Provisions.

15.1 *Status of Plan.* The Committee may authorize the creation of trusts or other arrangements to meet the Company's obligations to deliver stock or make payments with respect to Awards.

15.2 *Award Agreement.* Each Award under the Plan shall be evidenced by an Award Agreement in a written or electronic form approved by the Committee setting forth the number of shares of Common Stock or Restricted Stock Units subject to the Award, the exercise price, base price or purchase price of the Award, the time or times at which an Award will become vested, exercisable or payable and the term of the Award. The Award Agreement also may set forth the effect on an Award of a Change in Control or a termination of Service under certain circumstances. The Award Agreement shall be subject to and incorporate, by reference or otherwise, all of the applicable terms and conditions of the Plan, and also may set forth other terms and conditions applicable to the Award as determined by the Committee consistent with the limitations of the Plan. The grant of an Award under the Plan shall not confer any rights upon the Participant holding such Award other than such terms, and subject to such conditions, as are specified in the Plan as being applicable to such type of Award (or to all Awards) or as are expressly set forth in the Award Agreement. The Committee need not require the execution of an Award Agreement by a Participant, in which case, acceptance of the Award by the Participant shall constitute agreement by the Participant to the terms, conditions, restrictions and limitations set forth in the Plan and the Award Agreement as well as the administrative guidelines of the Company in effect from time to time. In the event of any conflict between the provisions of the Plan and any Award Agreement, the provisions of the Plan shall prevail.

15.3 *No Assignment or Transfer; Beneficiaries.* Except as provided in Section 6.7(e) hereof or as otherwise determined by the Committee, Awards under the Plan shall not be assignable or transferable by the Participant, and shall not be subject in any manner to assignment, alienation, pledge, encumbrance or charge. Notwithstanding the foregoing, in the event of the death of a Participant, except as otherwise provided by the Committee in an Award Agreement, an outstanding Award may be exercised by or shall become payable to the Participant's beneficiary as designated by the Participant in the manner prescribed by the Committee or, in the absence of an authorized beneficiary designation, by a legatee or legatees of such Award under the Participant's last will or by such Participant's executors, personal representatives or distributees of such Award in accordance with the Participant's will or the laws of descent and distribution. The Committee may provide in the terms of an Award Agreement or in any other manner prescribed by the Committee that the Participant shall have the right to designate a beneficiary or beneficiaries who shall be entitled to any rights, payments or other benefits specified under an Award following the Participant's death.

15.4 *Deferrals of Payment.* The Committee may in its discretion permit a Participant to defer the receipt of payment of cash or delivery of shares of Common Stock that would otherwise be due to the Participant by virtue of the exercise of a right or the satisfaction of vesting or other conditions with respect to an Award; provided, however, that such discretion shall not apply in the case of a Stock Option or Stock Appreciation Right. If any such deferral is to be permitted by the Committee, the Committee shall establish rules and procedures relating to such deferral in a manner intended to comply with the requirements of Section 409A of the Code, including, without limitation, the time when an election to defer may be made, the time period of the deferral and the events that would result in payment of the deferred amount, the interest or other earnings attributable to the deferral and the method of funding, if any, attributable to the deferred amount.

15.5 *No Right to Employment or Continued Service.* Nothing in the Plan, in the grant of any Award or in any Award Agreement shall confer upon any Eligible Person or any Participant any right to continue in the Service of the Company or any of its Subsidiaries or interfere in any way with the right of the Company or any of its Subsidiaries to terminate the employment or other service relationship of an Eligible Person or a Participant for any reason at any time. The loss of existing or potential profit from an Award will not constitute an element of damages in the event of a termination of Service for any reason, even if the termination is in violation of an obligation of the Company or any affiliate.

15.6 *Stock Certificates.* The Committee may determine in its discretion the manner of delivery of Common Stock to be issued under the Plan, which may be by delivery of stock certificates, electronic account entry into new or existing accounts or any other means as the Committee, in its discretion, deems appropriate. The Committee may require that the stock certificates (if any) be held in escrow by the Company for any shares of Common Stock or cause the shares to be legended in order to comply with the securities laws or other applicable restrictions or should the shares of Common Stock be represented by book or electronic account entry rather than a certificate, the Committee may take such steps to restrict transfer of the shares of Common Stock as the Committee considers necessary or advisable.

15.7 *Trading Policy Restrictions.* Option exercises and other Awards under the Plan shall be subject to such Company insider- trading-policy-related restrictions, terms and conditions to the extent established by the Committee, or in accordance with policies set by the Committee, from time to time.

15.8 *Section 409A Compliance.* To the maximum extent possible, it is intended that the Plan and all Awards hereunder comply with, or be exempt from, the requirements of Section 409A of the Code and the Treasury Regulations and other guidance issued thereunder, and that the Plan and all Award Agreements shall be interpreted and applied by the Committee in a manner consistent with this intent in order to avoid the imposition of any additional tax under Section 409A of the Code. Subject to Section 15.4 hereof, any payments due pursuant to this Plan shall be payable to the Participant no later than two-and-a-half months following the end of the taxable year in which the payments are earned (subject to a reasonable delay in payment due to an unforeseeable event making it administratively impracticable to make the payment by such time), and in no event shall the payments be made later than the end of the taxable year following the taxable year in which the payments are earned. In the event that any payment under this Plan is contingent upon the execution of a release, and the applicable release spans two of the Participant's taxable years, the applicable payments must be made in the second of the two taxable years. For purposes of Section 409A, each payment made under this Plan will be treated as a separate payment. In the event that any (i) provision of the Plan or an Award Agreement, (ii) Award, payment, transaction or (iii) other action or arrangement contemplated by the provisions of the Plan is determined by the Committee to not comply with the applicable requirements of Section 409A of the Code and the Treasury Regulations and other guidance issued thereunder, the Committee shall have the authority to take such actions and to make such changes to the Plan or an Award Agreement as the Committee deems necessary to comply with such requirements. No payment that constitutes deferred compensation under Section 409A of the Code that would otherwise be made under the Plan or an Award Agreement upon a termination of Service will be made or provided unless and until such termination is also a "separation from service," as determined in accordance with Section 409A of the Code (after giving effect to the presumptions contained therein). Notwithstanding the foregoing or anything elsewhere in the Plan or an Award Agreement to the contrary, if a Participant is a "specified employee" as defined in Section 409A of the Code at the time of termination of Service with respect to an Award, then solely to the extent necessary to avoid the imposition of any additional tax under Section 409A of the Code, the commencement of any payments or benefits under the Award shall be deferred until the date that is six (6) months following the Participant's termination of Service (or, if earlier, the date of death of the specified employee) and shall instead be paid (in a manner set forth in the Award

Agreement) on the payment date that immediately follows the end of such six (6) month period (or death) or as soon as administratively practicable within thirty (30) days thereafter, but in no event later than the end of the applicable taxable year.

15.9 No Guarantees Regarding Tax Treatment; Limitation of Liability. Neither the Company nor the Committee make any guarantees to any person regarding the tax treatment of Awards or payments made under the Plan. Neither the Company nor the Committee has any obligation to take any action to prevent the assessment of any tax on any person with respect to any Award under Section 422 of the Code, Section 409A of the Code, Section 4999 of the Code, Section 280G of the Code or otherwise. Notwithstanding anything to the contrary in the Plan, in no event whatsoever shall the Company, any of its Subsidiaries, the Committee, or any person acting on behalf of the Company, any of its Subsidiaries, or the Committee, be liable to any Participant, to any permitted transferee, to the estate or beneficiary of any Participant or any permitted transferee, or to any other person by reason of or with respect to any acceleration of income, or any additional tax, interest or penalties or damages that are asserted by reason of the failure of an Award to satisfy the requirements of Section 422 or Section 409A of the Code, or by reason of Section 4999 of the Code, or otherwise asserted with respect to an Award.

15.10 Securities Law Compliance. No shares of Common Stock will be issued or transferred pursuant to an Award unless and until all then applicable requirements imposed by Federal and state securities and other laws, rules and regulations and by any regulatory agencies having jurisdiction, and by any exchanges upon which the shares of Common Stock may be listed, have been fully met. As a condition precedent to the issuance of shares pursuant to the grant or exercise of an Award, the Company may require the Participant to take any reasonable action to meet such requirements. The Committee may impose such conditions on any shares of Common Stock issuable under the Plan as it may deem advisable, including, without limitation, restrictions under the Securities Act, under the requirements of any exchange upon which such shares of the same class are then listed, and under any blue sky or other securities laws applicable to such shares. The Committee may also require the Participant to represent and warrant at the time of issuance or transfer that the shares of Common Stock are being acquired only for investment purposes and without any current intention to sell or distribute such shares.

15.11 Substitute Awards in Corporate Transactions. Nothing contained in the Plan shall be construed to limit the right of the Committee to grant Awards under the Plan in connection with the acquisition, whether by purchase, merger, consolidation or other corporate transaction, of the business or assets of any corporation or other entity. Without limiting the foregoing, the Committee may grant Awards under the Plan to an employee, director or other individual service provider of another corporation who becomes an Eligible Person by reason of any such corporate transaction in substitution for awards previously granted by such corporation or entity to such person. The terms and conditions of the substitute Awards may vary from the terms and conditions that would otherwise be required by the Plan solely to the extent the Committee deems necessary for such purpose. To the extent consistent with the rules of NYSE or other principal exchange on which the Common Stock is then listed, any such substitute awards shall not (a) reduce the number of shares of Common Stock available for issuance under the Plan, (b) be subject to or counted against the Award limits specified in Section 4.3, 4.4 or 10.6 hereof or (c) replenish the Share Reserve upon the occurrence of any event set forth in Section 4.2 hereof.

15.12 Tax Withholding. The Company shall have the power and the right to deduct or withhold automatically from any amount deliverable under the Award or otherwise, or require a Participant to remit to the Company or the applicable Subsidiary, up to an amount based on the maximum statutory tax rates in the Participant's applicable tax jurisdiction or such other rate that will not trigger a negative accounting impact on the Company. With respect to required withholding, Participants may elect (subject to the Company's automatic withholding right set out above) to satisfy the withholding requirement with respect to any taxable event arising as a result of the Plan, in whole or in part, by the methods described in Section 6.5 hereof with respect to Stock Options or by a method similar to the methods described in Section 6.5 hereof with respect to Awards other than Stock Options (except as otherwise set forth in an Award Agreement), subject, in each case, to the Committee's discretion as set forth in such Section 6.5.

15.13 Unfunded Plan. The adoption of the Plan and any reservation of shares of Stock or cash amounts by the Company to discharge its obligations hereunder shall not be deemed to create a trust or other funded arrangement.

Except upon the issuance of Common Stock pursuant to an Award, any rights of a Participant under the Plan shall be those of a general unsecured creditor of the Company, and neither a Participant nor the Participant's permitted transferees or estate shall have any other interest in any assets of the Company by virtue of the Plan. Notwithstanding the foregoing, the Company shall have the right to implement or set aside funds in a grantor trust, subject to the claims of the Company's creditors or otherwise, to discharge its obligations under the Plan. The Plan is not subject to the U.S. Employee Retirement Income Security Act of 1974, as amended from time to time.

15.14 Other Compensation and Benefit Plans. The adoption of the Plan shall not affect any other share incentive or other compensation plans in effect for the Company or any Subsidiary, nor shall the Plan preclude the Company or any Subsidiary from establishing any other forms of share incentive or other compensation or benefit program for employees of the Company or any Subsidiary. The amount of any compensation deemed to be received by a Participant pursuant to an Award shall not constitute includable compensation for purposes of determining the amount of benefits to which a Participant is entitled under any other compensation or benefit plan or program of the Company or a Subsidiary, including, without limitation, under any pension or severance benefits plan, except to the extent specifically provided by the terms of any such plan.

15.15 Plan Binding on Transferees. The Plan shall be binding upon the Company, its transferees and assigns, and the Participant, the Participant's executor, administrator and permitted transferees and beneficiaries.

15.16 Severability. If any provision of the Plan or any Award Agreement shall be determined to be illegal or unenforceable by any court of law in any jurisdiction, the remaining provisions hereof and thereof shall be severable and enforceable in accordance with their terms, and all provisions shall remain enforceable in any other jurisdiction.

15.17 Governing Law. The Plan and all rights hereunder shall be subject to and interpreted in accordance with the laws of the State of Delaware, without reference to the principles of conflicts of laws, and to applicable Federal securities laws.

15.18 Consent to Jurisdiction. By accepting an Award, each Participant will be deemed to have submitted irrevocably and unconditionally to the jurisdiction and venue of the federal and state courts located within the geographic boundaries of the United States District Court for the Eastern District of Pennsylvania relative to any and all disputes, claims, suits, actions or other proceedings that may arise out of or relate to this Plan, an Award or any related Award Agreement. Further, by accepting an Award, each Participant will be deemed to agree (a) not to commence any suits, actions or other proceeding arising out of or related to this Plan, an Award or any related Award Agreement, except in the federal and state courts located within the geographic boundaries of the United States District Court for the Eastern District of Pennsylvania, and (b) to waive, and agree not to assert, by way of motion as a defense or otherwise, in any such suit, action or proceeding, any claim that he or she is not subject personally to the jurisdiction of the above-named courts that his or her property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that the Plan or an Award or the subject matter thereof may not be enforced in or by such court.

15.19 Waiver of Jury Trial. By accepting or being deemed to have accepted an Award under this Plan, each Participant waives any right to a jury trial in any action, proceeding or counterclaim arising under or in connection with or concerning any rights under the Plan and any Award, or under any amendment, waiver, consent, instrument, document or other agreement delivered or which in the future may be delivered in connection therewith, and agrees that any such action, proceedings or counterclaim will be tried before a court and not before a jury. By accepting or being deemed to have accepted an Award under the Plan, each Participant certifies that no officer, representative, or attorney of the Company has represented, expressly or otherwise, that the Company would not, in the event of any action, proceeding or counterclaim, seek to enforce the foregoing waivers. Notwithstanding anything to the contrary in the Plan, nothing herein is to be construed as limiting the ability of the Company and a Participant to agree to submit disputes arising under the terms of the Plan or any Award made hereunder to binding arbitration or as limiting the ability of the Company to require any eligible individual to agree to submit such disputes to binding arbitration as a condition of receiving an Award hereunder.

15.20 *No Fractional Shares.* No fractional shares of Common Stock shall be issued or delivered pursuant to the Plan or any Award, and the Committee shall determine (i) whether cash, other securities or other property shall be paid or transferred in lieu of any fractional shares of Common Stock or (ii) whether such fractional shares or any rights thereto shall be canceled, terminated or otherwise eliminated (in the case of this clause (ii), with no consideration paid therefor).

15.21 *Data Protection.* By participating in the Plan, each Participant consents to the collection, processing, transmission and storage by the Company, its Subsidiaries and any third party administrators of any data of a professional or personal nature for the purposes of administering the Plan.

15.22 *Awards to Non-U.S. Participants.* To comply with the laws in countries other than the United States in which the Company or any of its Subsidiaries or affiliates operates or has employees, Non-Employee Directors or consultants, the Committee, in its sole discretion, shall have the power and authority to (i) modify the terms and conditions of any Award granted to Participants outside the United States to comply with applicable foreign laws, (ii) take any action, before or after an Award is made, that it deems advisable to obtain approval or comply with any necessary local government regulatory exemptions or approvals and (iii) establish subplans and modify exercise procedures and other terms and procedures, to the extent such actions may be necessary or advisable. Any subplans and modifications to Plan terms and procedures established under this Section 15.22 by the Committee shall be deemed to be part of the Plan but will apply only to Eligible Persons within the group to which the supplement applies (as determined by the Committee).

15.23 *No Rights as Stockholder.* A Participant shall not have any rights as a stockholder with respect to any shares subject to an Award until such time as shares of Common Stock are delivered to the Participant pursuant to the terms of the applicable Award Agreement.

16. Term; Amendment and Termination; Stockholder Approval.

16.1 *Term.* The Plan shall be effective as of the date of adoption by the Board, which date is set forth below (the “Effective Date”). Subject to Section 16.2 hereof, the Plan shall terminate on the tenth anniversary of the Effective Date.

16.2 *Amendment and Termination.* The Board may from time to time and in any respect, amend, modify, suspend or terminate the Plan; provided, that, except as otherwise provided in Section 15.8 or 15.20 or as otherwise determined by the Committee as it deems necessary to comply with applicable laws, no amendment, modification, suspension or termination of the Plan shall adversely affect any Award theretofore granted without the consent of the Participant or the permitted transferee of the Award. The Board may seek the approval of any amendment, modification, suspension or termination by the Company’s stockholders to the extent it deems necessary or advisable in its discretion for purposes of compliance with Section 162(m) or Section 422 of the Code, the listing requirements of NYSE or any other exchange or securities market or for any other purpose, in each case, to the extent applicable.

16.3 *Stockholder Approval.* The Plan will be submitted for approval by the stockholders of the Company within twelve months of the Effective Date. Any Awards granted under the Plan prior to such approval of the stockholders shall be effective as of the applicable Date of Grant, but no such Award may be exercised or settled and no restrictions relating to any Award may lapse prior to such stockholder approval, and if the stockholders fail to approve the Plan as specified hereunder, the Plan and any Awards issued thereunder shall be terminated and cancelled without consideration.

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Adopted and approved by the Board by resolution at a meeting held on September 18, 2017.

Amended and restated by the Board by resolution adopted by unanimous written consent dated as of March 16, 2020.

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