MINERALS TECHNOLOGIES INC
Form DEF 14A
April 03, 2019
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant o

Check the appropriate box:

o Preliminary Proxy Statement
o **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
Definitive Proxy Statement
o Definitive Additional Materials
o Soliciting Material under §240.14a-12

Minerals Technologies Inc.
(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

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o Fee paid previously with preliminary materials.

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(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

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PROXY STATEMENT
NOTICE OF ANNUAL MEETING

Wednesday, May 15, 2019
1 Highland Avenue, Conference Center
Bethlehem, PA 18017

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MINERALS TECHNOLOGIES INC.
622 THIRD AVENUE
NEW YORK, NEW YORK 10017-6707

Dear Fellow Shareholder:

You are cordially invited to attend the 2019 Annual Meeting of Shareholders of Minerals Technologies Inc. (the Company, MTI, we, or us), which will be held on Wednesday, May 15, 2019, at 9:00 a.m., at 1 Highland Avenue, Conference Center, Bethlehem, Pennsylvania 18017.

At this year s meeting, you will be asked to consider and to vote upon the election of three directors. Your Board of Directors unanimously recommends that you vote **FOR** the nominees.

You will also be asked to ratify the appointment of KPMG LLP as our independent registered public accounting firm for the 2019 fiscal year. The Board continues to be satisfied with the services KPMG LLP has rendered to the Company and unanimously recommends that you vote **FOR** this proposal.

Lastly, you will also be asked to approve, on an advisory basis, the 2018 compensation of our named executive officers as described in this Proxy Statement. Your Board of Directors unanimously recommends that you vote **FOR** the advisory vote approving 2018 executive compensation.

The three items upon which you will be asked to vote are discussed more fully in the Proxy Statement. We urge you to read the Proxy Statement completely and carefully so that you can vote your interests on an informed basis.

It is anticipated that this Proxy Statement, the accompanying Proxy and the Company s 2018 Annual Report will first be available to shareholders on or about April 3, 2019 on the web site www.proxyvote.com and, if requested, a paper copy of this Proxy Statement, the accompanying Proxy and the Company s 2018 Annual Report will be mailed to the Company s shareholders. A Notice of Internet Availability of Proxy Materials (the Notice) containing instructions on how to access this Proxy Statement, Proxy and the Company s 2018 Annual Report and vote through the Internet, or by telephone, will be mailed to our shareholders on the same date as this Proxy Statement, the accompanying Proxy and the Company s 2018 Annual Report is first available to shareholders.

Your vote is important. Whether or not you plan to attend the meeting, we encourage you to read this Proxy Statement and submit your vote as soon as possible. For specific instructions on how to vote your shares, please refer to the instructions on the Notice you received in the mail, in the section entitled Questions and Answers About the Proxy Materials and the Annual Meeting of this Proxy Statement, or if you requested to receive printed proxy materials, your enclosed Proxy. If you return a signed proxy without marking it, it will be voted in accordance with the Board of Directors recommendations. You may, of course, attend the meeting and vote in person, even if you have previously submitted a proxy.

April 3, 2019

Sincerely,

Duane R. Dunham
Chairman of the Board

Douglas T. Dietrich
Chief Executive Officer

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NOTICE OF THE ANNUAL MEETING OF SHAREHOLDERS

Minerals Technologies Inc.

NOTICE OF THE ANNUAL MEETING OF SHAREHOLDERS

May 15, 2019

The Annual Meeting of Shareholders of MINERALS TECHNOLOGIES INC., a Delaware corporation, will be held on Wednesday, May 15, 2019 at 9:00 a.m., at 1 Highland Avenue, Conference Center, Bethlehem, Pennsylvania 18017, to consider and take action on the following items:

1. the election of three directors;
2. a proposal to ratify the appointment of KPMG LLP as the independent registered public accounting firm of Minerals Technologies Inc. for the 2019 fiscal year;
3. an advisory vote to approve 2018 named executive officer compensation; and
4. any other business that properly comes before the meeting, either at the scheduled time or after any adjournment.

Shareholders of record as of the close of business on March 19, 2019 are entitled to notice of and to vote at the meeting.

April 3, 2019

New York, New York

By Order of the Board of Directors,

Thomas J. Meek
Senior Vice President, General Counsel,
Human Resources, Secretary and Chief Compliance Officer

You are cordially invited to attend the meeting in person. Whether or not you plan to attend the meeting, we encourage you to read this Proxy Statement and submit your vote as soon as possible. For specific instructions on how to vote your shares, please refer to the instructions on the Notice you received in the mail, in the section entitled Questions and Answers About the Proxy Materials and the Annual Meeting of this Proxy Statement, or if you requested to receive printed proxy materials, your enclosed proxy card. If you return a signed proxy without marking it, it will be voted in accordance with the Board of Directors recommendations. You may, of course, attend the meeting and vote in person, even if you have previously submitted a proxy.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE MINERALS TECHNOLOGIES INC. ANNUAL MEETING OF SHAREHOLDERS TO BE HELD ON MAY 15, 2019

The 2019 Proxy Statement and 2018 Annual Report to Shareholders are available at: www.proxyvote.com

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PROXY SUMMARY

PROXY SUMMARY

This summary highlights information contained elsewhere in this proxy statement. This summary does not contain all of the information that you should consider and you should read the entire proxy statement before voting. For more complete information regarding the Company s 2018 performance, please review the Company s Annual Report on Form 10-K for the year ended December 31, 2018.

Voting Matters

Our Board s Recommendation

Proposal Issue	**FOR**
Item 1. Election of Directors	
01 Elect Douglas T. Dietrich	
02 Elect Carolyn K. Pittman	
03 Elect Donald C. Winter	
Item 2. Ratification of Appointment of Auditors	
Item 3. Advisory Vote to Approve 2018 Named Executive Officer Compensation	

Our Company

Minerals Technologies Inc. is a resource- and technology-based company that develops, produces, and markets on a worldwide basis a broad range of specialty mineral, mineral-based and synthetic mineral products and supporting systems and services.

The Company has four reportable segments: Performance Materials, Specialty Minerals, Refractories and Energy Services.

- The Performance Materials segment is a leading supplier of bentonite and bentonite-related products, chromite and leonardite. This segment also provides products for non-residential construction, environmental and infrastructure projects worldwide, serving customers engaged in a broad range of construction projects.
- The Specialty Minerals segment produces and sells the synthetic mineral product precipitated calcium carbonate (PCC) and processed mineral product quicklime (lime), and mines mineral ores then processes and sells natural mineral products, primarily limestone and talc. This segment’s products are used principally in the paper, building materials, paint and coatings, glass, ceramic, polymer, food, automotive and pharmaceutical industries.
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The Refractories segment produces and markets monolithic and shaped refractory materials and specialty products, services and application and measurement equipment, and calcium metal and metallurgical wire products. Refractories segment products are primarily used in high-temperature applications in the steel, non-ferrous metal and glass industries.

- The Energy Services segment provides services to improve the production, costs, compliance, and environmental impact of activities performed in the oil and gas industry. This segment offers a range of services for off-shore filtration and well testing to the worldwide oil and gas industry.

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2018 Performance at a Glance

STRATEGIC GROWTH

- Significant progress on all three facets of our growth strategy: geographic expansion, new product development and acquisitions.

Geographic Expansion:

- Asia sales up 6% driven by expansion and penetration efforts in Paper PCC and Metalcasting.
- Over the past two years, we have signed contracts for over 400,000 tons of Paper PCC capacity in Asia, of which 165,000 tons were secured in 2018.
- Generated double digit revenue growth in India, Turkey, Indonesia and Thailand.

New Product Development:

- Commercialized 35 new value-added products with the potential to deliver over $100 million in annual revenue.

Acquisitions:

- Acquisition and integration of Sivomatic Holding, B.V., a leading European supplier of premium pet litter products, which was accretive to earnings in 2018.

OPERATING PERFORMANCE

- Strong operating results with continued productivity improvement, employee engagement and significant cost savings.
- Achieved record earnings for the ninth consecutive year with earnings of $4.84 per share, excluding special items, as compared with $4.59 per share in 2017. This represents 13% compound annual growth from 2010 through 2018.
- Operating income, excluding special items and unallocated corporate expenses, was $260.6 million and represented 14.4% of sales.
- Our cash flow from operations for the year was strong at $204 million. Cash flows provided from operations in 2018 were principally used for repayment of debt, to fund capital expenditures and the Company’s pension plans, repurchase shares and pay the Company’s dividend to common shareholders.
  - We repaid $80 million of debt in 2018. Our net leverage ratio at the end of 2018 was 2.2.

OPERATIONAL EXCELLENCE AND SAFETY

- Continued success implementing Operational Excellence and Lean principles, with employees having held over 7,000 Kaizen events (highly focused workshops) and generating over 59,000 ideas, of which 71% were implemented.
  - Productivity improved 6 percent which resulted in savings of approximately $4 million.
- Continued to drive our safety performance toward world class levels and strive for our target of zero injuries.

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PROXY SUMMARY

Board of Directors Overview

Our Directors exhibit an effective mix of skills, experience and diversity. As part of the Board s ongoing commitment to maintaining diverse viewpoints and a broad range of skills and experiences, the Board continues to refresh itself to infuse unique ideas and fresh perspectives into the boardroom, most recently welcoming one new director, Alison A. Deans, in 2019 and two new directors, Franklin L. Feder and Carolyn K. Pittman, in 2017.

Name	Age	Director Since	Professional Background	Gender, National or Ethnic Diversity	Independent	Audit Committee	Compensation Committee	Corporate Governance and Nominating Committee	Number of Other U.S. Public Boards
Joseph C. Breunig	57	2014	Former Executive Vice President, Chemicals, Axiall Corporation						0
John J. Carmola	63	2013	Former Segment President, Goodrich Corporation						0
Robert L. Clark	55	2010	Provost and Senior Vice President for Research, University of Rochester						0
Alison A. Deans	57	2019	Independent consultant and former Chief Investment Officer at CRT						0
Douglas T. Dietrich	50	2016	Chief Executive Officer, Minerals Technologies						0
Duane R. Dunham*	77	2002	Former President and Chief Operating Officer, Bethlehem Steel Corporation						0
Franklin L. Feder	68	2017	Former Regional Chief Executive Officer for Latin America & the Caribbean, Alcoa						2

Carolyn K. Pittman	55	2017	Former Vice President-Finance and Controller, Huntington Ingalls Newport News Shipbuilding	0
Marc E. Robinson	58	2012	Senior Vice President, Enterprise Strategy, Aetna	0
Donald C. Winter	70	2014	Professor of Engineering Practice, University of Michigan; Former 74th Secretary of the Navy	0

* **Chairman of the Board** **Committee Chairman** **Member**

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PROXY SUMMARY

Corporate Governance Practices

Majority Voting in Director Elections
Nine of Ten Directors are Independent
Independent Chairman of the Board
Independent Audit, Compensation and Corporate Governance and Nominating Committees
Commitment to Board Refreshment (eight new directors since the beginning of 2012)
Qualified and Diverse Board
Active Shareholder Engagement
Proxy Access
Commitment to Sustainability

Executive Compensation Practices

Pay for Performance
Link Long-Term Compensation to Stock Performance
Expect High Performance
Double Trigger for Vesting on Change in Control
Clawback Policy
Minimal Perquisites
Stringent Stock Ownership Requirements for Directors and Executive Officers
Retention Period on Exercised Stock Options and Vested DRSUs (executives must hold at least 50% of after-tax value for at least five years)

Shareholder Engagement

We continued our shareholder outreach program in 2018 – 2019, including contacting **our top 60 shareholders**, who we believe at the time collectively held approximately 85% of our stock. We solicited our shareholders views on whether they considered the disclosure in our proxy statement sufficient and understandable, whether they had any concerns with our executive compensation program, especially our program s design and the linkage between pay and performance, if they found the disclosure useful regarding our environmental, social and other initiatives focused on the safety of our employees, environmental stewardship, social responsibility and profitable growth, as detailed in our latest Corporate Responsibility and Sustainability Report, and whether there were any other ways we could enhance our corporate governance structure to be more effective in driving shareholder value. The shareholders that engaged with us responded positively with respect to our 2018 disclosure, executive compensation program, corporate governance and sustainability reporting.

As a result of our shareholder engagement efforts, we have taken a number of corporate governance actions in recent years, including implementing and then revising a proxy access by-law, implementing majority voting, and revising our disclosure regarding our Board practices. We have also taken note of our shareholders increasing interest in sustainability initiatives, and are in the process of setting sustainability targets.

Consideration of Results of 2018 Shareholder Advisory Vote

At our 2018 Annual Meeting, our shareholders approved the 2017 compensation of our named executive officers with 87% of the shares voting on the matter at the meeting voting in favor. We believe that the significant margin of approval of our 2018 Say-on-Pay proposal resulted in large measure from our shareholder engagement effort.

As a result of the vast majority of shares favoring our Say-on-Pay proposal at our 2018 Annual Meeting, and the positive feedback we received during our 2018 – 2019 shareholder outreach program, we have substantially maintained our executive compensation policies. The Compensation Committee will continue to consider the views of our shareholders in connection with our executive compensation program and make improvements based upon evolving best practices, market compensation information and changing regulatory requirements.

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PROXY SUMMARY

Executive Compensation Highlights

The Company consistently delivers significant returns to its shareholders. In 2018, we achieved record earnings per share for the ninth year in a row and we generated strong cash flow from operations of $204 million. We believe these are key metrics of Company performance that correlate to shareholder value.

The following illustrates the compensation of our Chief Executive Officer, Douglas T. Dietrich, over the past three years. For reference, we also illustrate the Company s earnings per share over the past three years.

1 2016 CEO Total Compensation reflects compensation for the previous Chairman and Chief Executive Officer through September 2016. In addition, included in 2016 compensation is the incremental compensation of the Interim Co-Chief Executive Officers, Mr. Dietrich and Mr. Thomas J. Meek, earned for their services in such positions from September 2016 through December 2016. In December 2016, Mr. Dietrich was elected Chief Executive Officer.

2 Compensation for Mr. Dietrich as set forth in the Summary Compensation Table. Mr. Dietrich was Senior Vice President, Finance and Treasury, Chief Financial Officer until his appointment as Chief Executive Officer in 2016.

Because the majority of our long-term incentive compensation consists of equity-based awards, the price of our stock directly affects the compensation realizable by our executives. The following is a comparison between the total realizable compensation for Mr. Dietrich for the years 2016–2018, determined as of December 31, 2018, and the total compensation we reported in the Summary Compensation Table for that time frame, which uses values for equity awards as of the date of grant.

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PROXY STATEMENT

MINERALS TECHNOLOGIES INC.
622 THIRD AVENUE
NEW YORK, NEW YORK 10017-6707

April 3, 2019

PROXY STATEMENT

This proxy statement (Proxy Statement) contains information related to the annual meeting of shareholders (Annual Meeting) of the Company, to be held at 9:00 a.m. on Wednesday, May 15, 2019, at 1 Highland Avenue, Conference Center, Bethlehem, Pennsylvania 18017.

QUESTIONS AND ANSWERS ABOUT THE PROXY MATERIALS AND THE ANNUAL MEETING

1. Why am I being sent these materials?

The Company has made these materials available to you on the internet, or, upon request, has delivered printed proxy materials to you, in connection with the solicitation of proxies for use at the Annual Meeting. If a quorum does not attend or is not represented by proxy, the meeting will have to be adjourned and rescheduled.

2. Who is asking for my proxy?

The Board of Directors asks you to submit a proxy for your shares so that even if you do not attend the meeting, your shares will be counted as present at the meeting and voted as you direct.

3. What is the agenda for the Annual Meeting?

At the Annual Meeting, shareholders will vote on three items: (i) the election of Douglas T. Dietrich, Carolyn K. Pittman and Donald C. Winter as members of the Board of Directors, (ii) the ratification of the appointment of KPMG LLP (KPMG) as our independent registered public accounting firm and (iii) an advisory vote to approve 2018 executive compensation. Also, management will make a brief presentation about the business of the Company, and representatives of KPMG will make themselves available to respond to any questions from the floor.

The Board does not know of any other business that will be presented at the Annual Meeting. The form of proxy gives the proxies discretionary authority with respect to any other matters that come before the Annual Meeting and, if such matters arise, the individuals named in the proxy will vote according to their best judgment.

4. How does the Board of Directors recommend I vote?

The Board unanimously recommends that you vote for the nominee for directors, Douglas T. Dietrich, Carolyn K. Pittman and Donald C. Winter, for ratification of the appointment of KPMG to continue as our auditors, and for the advisory vote approving 2018 executive compensation.

5. Who can attend the Annual Meeting?

Any shareholder of the Company, employees, and other invitees may attend the Annual Meeting.

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QUESTIONS AND ANSWERS ABOUT THE PROXY MATERIALS AND THE ANNUAL MEETING

6. Who can vote at the Annual Meeting?

Anyone who owned shares of our common stock at the close of business on March 19, 2019 (the Record Date) may vote those shares at the Annual Meeting. Each share is entitled to one vote.

7. What constitutes a quorum for the meeting?

According to the by-laws of the Company, a quorum for all meetings of shareholders consists of the holders of a majority of the shares of common stock issued and outstanding and entitled to vote, present in person or by proxy. On the Record Date there were 35,233,790 shares of common stock issued and outstanding, so at least 17,616,896 shares must be represented at the meeting for business to be conducted.

Shares of common stock represented by a properly signed and returned proxy are treated as present at the Annual Meeting for purposes of determining a quorum, whether the proxy is marked as casting a vote or abstaining.

Shares represented by broker non-votes are also treated as present for purposes of determining a quorum. Broker non-votes are shares held in record name by brokers or nominees, as to which the broker or nominee (i) has not received instructions from the beneficial owner or person entitled to vote, (ii) does not have discretionary voting power under applicable New York Stock Exchange rules or the document under which it serves as broker or nominee, and (iii) has indicated on the proxy card, or otherwise notified us, that it does not have authority to vote the shares on the matter.

If a quorum does not attend or is not represented, the Annual Meeting will have to be postponed.

8. How many votes are required for each question to pass?

Directors are elected by the vote of the majority of the votes cast in uncontested elections. All other questions are determined by a majority of the votes cast on the question, except as otherwise provided by law or by the Certificate of Incorporation.

9. What is the effect of abstentions and broker non-votes?

Under New York Stock Exchange Rules, the proposal to ratify the appointment of independent auditors is considered a discretionary item. This means that brokerage firms may vote in their discretion on this matter on behalf of clients who have not furnished voting instructions at least 10 days before the date of the meeting. In contrast, the election of directors and the advisory vote to approve 2018 executive compensation are non-discretionary items. This means brokerage firms that have not received voting instructions from their clients on these proposals may not vote on them. These so-called broker non-votes will be included in the calculation of the number of votes considered to be present at the meeting for purposes of determining a quorum, but will not be considered in determining the number of votes necessary for approval and will have no effect on the outcome of the election of directors and the advisory vote to approve 2018 executive compensation. Similarly, abstentions will be included in the calculation of the number of votes considered to be present for purposes of determining a quorum, but will have no effect on the outcome of the election of directors, the ratification of the appointment of independent auditors and the advisory vote to approve 2018 named executive officer compensation.

10. Who will count the votes?

A representative from Broadridge Financial Solutions, Inc. will serve as inspector of election.

11. Who are the Company's largest shareholders?

BlackRock Inc. owns 11.7%; Vanguard Group Inc. owns 9.3% and T. Rowe Price Associates, Inc. owns 5.4%. The percentages of ownership were calculated based on our outstanding shares of 35,230,165 as of January 31, 2019. No other person owned of record, or, to our knowledge, owned beneficially, more than 5% of the Company s common stock.

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QUESTIONS AND ANSWERS ABOUT THE PROXY MATERIALS AND THE ANNUAL MEETING

12. How can I cast my vote?

You can vote by proxy over the internet by following the instructions provided in the Notice, or, if you requested to receive printed proxy materials, you can also vote by mail pursuant to the instructions provided on the proxy card. If you hold shares beneficially in street name, you may also vote by proxy over the internet by following the instructions provided in the Notice, or, if you requested to receive printed proxy materials, you can also vote by mail by following the voting instruction card provided to you by your broker, bank, trustee or nominee.

If you are an employee who participates in the Company s Savings and Investment Plan (the Company s 401(k) plan), to vote your shares in the Plan you must provide the trustee of the Plan with your voting instructions in advance of the meeting. You may do so by proxy over the internet by following the instructions provided in the Notice, or, if you requested to receive printed proxy materials, you can also vote by mail by following the voting instructions provided in the proxy card. You cannot vote your shares in person at the Annual Meeting; the trustee is the only one who can vote your shares at the Annual Meeting. The trustee will vote your shares as you instruct. If the trustee does not receive your instructions, your shares generally will be voted by the trustee in proportion to the way the other Plan participants voted. To allow sufficient time for voting by the trustee, your voting instructions must be received by 11:59 p.m. Eastern Daylight Time (EDT) on May 13, 2019.

13. What if I submit a proxy but don’t mark it to show my preferences?

If you return a properly signed proxy without marking it, it will be voted in accordance with the Board of Directors recommendations on all proposals.

14. What if I submit a proxy and then change my mind?

If you submit a proxy, you can revoke it at any time before it is voted by submitting a written revocation or a new proxy, or by voting in person at the Annual Meeting. However, if you have shares held through a brokerage firm, bank or other custodian, you can revoke an earlier proxy only by following the custodian s procedures. Employee Savings and Investment Plan participants can notify the Plan trustee in writing that prior voting instructions are revoked or are changed.

15. Who is paying for this solicitation of proxies?

The Company pays the cost of this solicitation. In addition to soliciting proxies through the mail using this Proxy Statement, we may solicit proxies by telephone, facsimile, electronic mail and personal contact. These solicitations will be made by our regular employees without additional compensation. We have also engaged Morrow Sodali LLC, 470 West Ave., Stamford, CT 06902 to assist in this solicitation of proxies, and we have agreed to pay that firm $5,500 for its assistance, plus expenses.

16. Where can I learn the outcome of the vote?

The Secretary will announce the preliminary voting results at the Annual Meeting, and we will publish the final results in a current report on Form 8-K which will be filed with the Securities and Exchange Commission as soon as practicable after the Annual Meeting.

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SHAREHOLDER ENGAGEMENT

SHAREHOLDER ENGAGEMENT

We engage in an extensive, ongoing shareholder engagement effort that we began in 2012. This consists of discussing corporate governance, compensation and other matters with our shareholders well before the annual meeting, as well as during proxy voting. We also engage with proxy advisory firms that represent the interests of various shareholders.

We continued this shareholder outreach program in 2018 – 2019, including contacting **our top 60 shareholders**, who we believe at the time collectively held approximately 85% of our stock. We solicited our shareholders views on whether they considered the disclosure in our proxy statement sufficient and understandable, whether they had any concerns with our executive compensation program, especially our program s design and the linkage between pay and performance, if they found the disclosure useful regarding our environmental, social and other initiatives focused on the safety of our employees, environmental stewardship, social responsibility and profitable growth, as detailed in our most recent Corporate Responsibility and Sustainability Report, and whether there were any other ways we could enhance our corporate governance structure to be more effective in driving shareholder value. The shareholders that engaged with us responded positively with respect to our 2018 disclosure, executive compensation program, corporate governance and sustainability reporting.

The following is a sampling of the comments we received from our shareholders through this engagement process:

You have made significant progress in Board diversity with the addition of Carolyn Pittman and Frank Feder. The Board nomination process is excellent, and the use of the Rooney Rule shows a public commitment to diversity.

Alison Deans brings excellent experience to this new role and will no doubt be a strong voice on the Board.

MTI is one of the better and more transparent companies for overall corporate governance. We appreciate that annual incentive compensation for executives is tied to two financial metrics that are important to us as shareholders and that we are also tied to – Return on Capital and Operating Income. We like the mix of short-term and long-term incentives and the three year performance period.

Your proxy statement is very good. I like that you have a Sustainability section right there in your proxy, that you report safety metrics to the Board on a monthly basis and that you provide a direct channel to your independent directors, whom shareholders can email directly.

We have long looked at MTI as a leader in sustainability reporting, particularly among small cap companies, and we actually send your report to other companies as a good example. You are upfront about the limitations of the report, and we also applaud the rigor of your report.

You made a good effort on proxy access – it's clear you are listening to shareholders and making prudent decisions.

Your Sustainability Report is very detailed and answers a number of questions that shareholders would have.

As a result of our shareholder engagement efforts, we have taken a number of corporate governance actions in recent years, including implementing and then revising a proxy access by-law, implementing majority voting, and revising our disclosure regarding our Board practices. We have also taken note of our shareholders' increasing interest in sustainability initiatives, and are in the process of setting sustainability targets.

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CORPORATE GOVERNANCE

Our Board of Directors (the Board) oversees the activities of our management in the handling of the business and affairs of our company, reviews and approves fundamental financial and business strategies, assesses major risks facing the Company, and assures that the long-term interests of shareholders are being served. As part of the Board s oversight responsibility, it monitors developments in the area of corporate governance. The Board has adopted a number of policies with respect to our corporate governance, including the following: (i) a set of guidelines setting forth the operation of our Board and related governance matters, entitled Corporate Governance Guidelines ; (ii) a code of ethics for the Company s Chief Executive Officer, Chief Financial Officer, and Chief Accounting Officer, entitled Code of Ethics for Senior Financial Officers ; and (iii) a code of business conduct and ethics for directors, officers and employees of the Company entitled Summary of Policies on Business Conduct. The Board annually reviews and amends, as appropriate, our governance policies and procedures.

The Corporate Governance Guidelines, the Code of Ethics for Senior Financial Officers and the Summary of Policies on Business Conduct are posted on our website, *www.mineralstech.com*, under the links entitled Our Company, then Corporate Governance, and then Policies and Charters, and are available in print at no charge to any shareholder who requests them by writing to Secretary, Minerals Technologies Inc., 622 Third Avenue, New York, New York 10017-6707.

Our Board of Directors

Our Board is elected by our shareholders to oversee our business and affairs. The Board advises and counsels management regarding the long-term interests of the Company, our shareholders and other stakeholders regarding a broad range of subjects. The Board and its Committees also performs a number of specific functions, such as:

- Selecting, evaluating performance of, and compensating the Chief Executive Officer, overseeing Chief Executive Officer succession planning, and providing counsel and oversight on the selection, evaluation, development, and compensation of senior management;
- Reviewing, approving and monitoring fundamental financial and business strategies, including our annual plan and longer-term strategic plans, significant capital expenditures and uses of the Company’s funds, and other major corporate actions;
- Ensuring processes are in place for maintaining the integrity of the Company, the integrity of its financial statements, the integrity of its compliance with laws, rules, regulations, and ethics, the integrity of its relationships with customers and suppliers, and the integrity of its relationships with other stakeholders;
- Assessing major risks facing the Company and reviewing options for their management and mitigation;
- Regularly reviewing the Company’s safety culture and performance, environmental compliance, and sustainability practices; and
- Regularly evaluating potential strategic alternatives relating to the Company and our business, including possible acquisitions, divestitures and business combinations.

Meetings and Attendance

The Board met five times in 2018. Each of the directors attended at least 75% of the meetings of the Board and committees on which he or she served in 2018. At each regular meeting of the Board, the independent (non-management) directors have an opportunity to meet in executive session outside the presence of Mr. Dietrich, the Company s sole non-independent (management) director or any other member of management.

Under our Corporate Governance Guidelines, all members of the Board are expected to attend the Annual Meeting of Shareholders. All of the members of the Board attended last year s Annual Meeting of Shareholders.

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CORPORATE GOVERNANCE

Director Independence

The Board has adopted the following categorical standards to guide it in determining whether a member of the Board can be considered independent for purposes of Section 303A of the Listed Company Manual of the New York Stock Exchange: A director will not be independent if, within the preceding three years:

- the director was employed by the Company, or an immediate family member of the director was employed by the Company, as an executive officer;
- the director or an immediate family member of the director received more than $120,000 per year in direct compensation from the Company, other than director and committee fees and pensions or other forms of direct compensation for prior service (provided such compensation is not contingent in any way on continued service);
- the director was employed by or affiliated with the Company's independent registered public accounting firm or an immediate family member of the director was employed by or affiliated with the Company's independent registered public accounting firm in a professional capacity;
- the director or an immediate family member was employed as an executive officer of another company where any of the Company's present executives served on that company's compensation committee; and
- the director was an executive officer or an employee, or had an immediate family member who was an executive officer, of a company that made payments to, or received payments from, the Company for goods or services in an amount which, in any single fiscal year, exceeded the greater of $1,000,000 or 2% of the other company's consolidated gross revenues.

In the case of each director who qualifies as independent, the Board is aware of no relationships between the director and the Company and its senior management, other than the director s membership on the Board of the Company and on committees of the Board. As a result of its application of the categorical standards and the absence of other relationships, the Board has affirmatively determined (with each member abstaining from consideration of his or her own independence) that none of the non-employee members of the Board violates the categorical standards or otherwise has a relationship with the Company and, therefore, each is independent. Specifically, the Board has affirmatively determined that Mr. Joseph C. Breunig, Mr. John J. Carmola, Dr. Robert L. Clark, Ms. Alison A. Deans, Mr. Duane R. Dunham, Mr. Franklin L. Feder, Ms. Carolyn K. Pittman, Mr. Marc E. Robinson, and Dr. Donald C. Winter, comprising all of the non-employee directors, are independent.

Board Leadership Structure

The Board continuously evaluates its leadership structure. In 2016, the Board elected Mr. Duane R. Dunham as Chairman of the Board. Mr. Dunham has been an independent Director of the Company since 2002. Upon his election as Chief Executive Officer, Mr. Dietrich was also elected to the Board. All directors, with the exception of Mr. Dietrich, are independent. In practice, the Board continues to act cooperatively. Mr. Dunham and Mr. Dietrich develop Board agendas in consultation with other Board members, who may request an item be added to the agenda.

The Board expects the independent directors to work collaboratively to discharge their Board responsibilities, including in determining items to be raised in the executive session meetings of independent directors. The Company believes that this approach effectively encourages full participation by all Board members in relevant matters, while avoiding unnecessary hierarchy. It provides a well-functioning and effective balance between strong Company leadership and appropriate safeguards and oversight by independent directors. The Board believes that additional structure or formalities would not enhance the substantive corporate governance process and could restrict the access of individual Board members to management.

The Board recognizes that there is no single, generally accepted approach to providing Board leadership. While the Corporate Governance Guidelines currently provide for the foregoing leadership structure, the Board reserves the right to adopt a different policy as circumstances warrant.

Board Size and Committees

It is the policy of the Company that the number of Directors should not exceed a number that can function efficiently as a body. The Board currently consists of ten members, nine of whom have been affirmatively determined to be independent. The Board currently has the following Committees: Audit, Compensation, and Corporate Governance and Nominating.

Each Committee consists entirely of independent, non-employee directors. The responsibilities of such Committees are more fully discussed below under Committees of the Board. The Corporate Governance and Nominating Committee considers and makes recommendations to the Board concerning the appropriate size and needs of the Board and its Committees.

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Board Refreshment

The Board is committed to effective board succession planning and refreshment as part of the Board s ongoing commitment to maintaining diverse viewpoints and a broad range of skills and experiences. We have experienced a healthy level of turnover on the Board, with three new directors since the beginning of 2017, and eight new directors since the beginning of 2012. This refreshment process has infused unique ideas and fresh perspectives into the boardroom, and has significantly increased the diversity of our Board. The Board does not endorse arbitrary term limits on directors service. However, it is the policy of the Company that each director shall submit his or her resignation from the Board not later than the date of his or her 72nd birthday. The Board will then determine whether to accept such resignation. The Board self-evaluation process is an important determinant for continuing service by current directors.

Identification and Evaluation of Directors

The Corporate Governance and Nominating Committee is charged with seeking individuals qualified to become directors and recommending candidates for all directorships to the full Board. The Committee considers director candidates to fill new positions created by expansion and vacancies that occur by resignation, by retirement or for any other reason.

While the Board has not established any minimum set of qualifications for membership on the Board, candidates are selected for, among other things, their integrity, independence, diversity, range of experience, leadership, the ability to exercise sound judgment, the needs of the Company and the range of talent and experience already represented on the Board. See Director Qualifications and Diversity Considerations below for detailed information concerning directors qualifications. The Committee considers director candidates suggested by members of the Committee, other directors, senior management and shareholders. The Committee has the authority to use outside search consultants at its discretion. Final approval of a candidate is determined by the full Board.

Shareholders wishing to recommend a director candidate to the Committee for its consideration should write to the Committee, in care of Secretary, Minerals Technologies Inc., 622 Third Avenue, New York, New York 10017-6707. To receive meaningful consideration, a recommendation should include the candidate s name, biographical data, and a description of his or her qualifications in light of the criteria discussed below. Recommendations by shareholders that are made in accordance with these procedures will receive the same consideration by the Committee as other suggested nominees. Shareholders wishing to nominate a director directly at a meeting of shareholders should follow the procedures set forth in the Company s by-laws and described under Shareholder Proposals and Nominations, below.

Director Qualifications and Diversity Considerations

Directors are responsible for overseeing the Company s business and affairs consistent with their fiduciary duty to shareholders. This significant responsibility requires highly-skilled individuals with various qualities, attributes, skills and experiences. The Board and Corporate Governance and Nominating Committee require that each director be a recognized person of high integrity with a proven record of success in his or her field. It is expected that candidates will have an appreciation of the responsibilities of a director of a company whose shares are listed on a national securities exchange. The Board and Committee also take into account the ability of a director to devote the time and effort necessary to fulfill his or her responsibilities to the Company.

The Committee considers the need for diversity on the Board as an important factor when identifying and evaluating potential director candidates and believes that the composition of the Board should reflect sensitivity to the need for diversity as to geography, gender, ethnic background, profession, skills and business experience. While the Board does not have a specific written diversity policy, the Company is committed to inclusiveness with respect to diversity of ethnicity and gender. Accordingly, in performing its responsibilities to review director candidates and recommend candidates to the Board for election, the Committee is committed to ensuring that candidates with a diversity of ethnicity and gender are included in each pool of candidates from which Board nominees are chosen.

Members of the Board should have a background and experience in areas important to the operations and strategy of the Company. Experience in the following areas are among the most significant qualifications of a director:

- **Leadership Experience:** Experience as a CEO, CFO, COO, division or segment president or managing director, or other functional leadership within a large, complex organization such as ours.
- **International Experience:** Experience overseeing complex global operations in many countries, such as we have, helps us understand opportunities and challenges.

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- **Financial Literacy:** Knowledge of financial reporting and complex financial transactions, as is involved with our business.
- **Technology Experience:** Experience with new technology, as we are a technology-based company that depends on our research and development capability for developing and introducing advanced new products.
- **Relevant Industry Experience:** Experience in manufacturing industries provides a relevant understanding of our business, strategy and marketplace dynamics.
- **Governmental Experience:** Experience with government helps us navigate a complex regulatory environment.
- **Operational Experience:** Experience developing and implementing operating plans with an organization as large and complex as ours.
- **M&A/Financial Industry Experience:** Experience with mergers & acquisitions and with the capital markets is important for a public company such as us.
- **Risk Management Expertise:** Experience operating in a complex risk environment which requires effective risk management, including with respect to cyber-security risks.

The Committee does not assign specific weights to particular criteria and no particular criterion is necessarily applicable to all prospective director candidates. The Board believes that its members provide a significant composite mix of experience, knowledge and abilities that contribute to a more effective decision-making process and allow the Board to effectively fulfill its responsibilities. The Board uses a skills matrix to assist it in considering the appropriate balance of experience, skills and attributes required of a director and to be represented on the Board as a whole. The skills matrix is based on the Company s strategic plan and is periodically reviewed. Board candidates are evaluated against the skills matrix when the Committee determines whether to recommend candidates for initial election to the Board and when determining whether to recommend currently serving directors for reelection to the Board.

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Summary of Director Qualifications and Experience

The matrix below summarizes the key experience, qualifications and attributes of our Board. Marks indicate specific areas of expertise or focus relied on by our Board, but the lack of a mark in a particular area does not necessarily signify a director s lack of qualification or experience in such area. See Item 1 – Election of Directors for specific qualifications, skills and experiences of each of our directors and nominees.

Board and Committee Self-Evaluation

The members of the Board and each Committee are required to conduct a self-evaluation of their performance. The evaluation process is organized by the Corporate Governance and Nominating Committee, occurs at least annually, and is re-evaluated each year to ensure it complies with current best practices. The evaluation is part of a detailed review of directors qualifications for re-nomination.

Director Stock Ownership Requirements

Under the Company s Corporate Governance Guidelines, each director is required to own by the end of the first 36 months of service as a director and maintain throughout their service as a director:

- At least 400 shares of the Company’s common stock outright (excluding any stock units awarded by the Company and any unexercised stock options); and
- A number of shares equal to five times the then current annual cash retainer for directors (inclusive of any stock units, restricted stock or similar awards by the Company in connection with service as an employee or Director, and, if applicable, shares purchased with amounts invested in the MTI retirement plans, but excluding any unexercised stock options).

As of March 15, 2019, all of the Company s directors who had served the 36 months for this requirement to apply met the requirement.

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The Board s Role in Risk Oversight

The Board has responsibility for risk oversight, including understanding critical risks in the Company s business and strategy, evaluating the Company s risk management processes, and seeing that such risk management processes are functioning adequately. It is management s responsibility to manage risk and bring to the Board s attention the most material risks to the Company. The Company s management has several layers of risk oversight, including through the Company s Strategic Risk Management Committee and Operating Risk Management Committee.

Management communicates routinely with the Board, Board Committees and individual directors on the significant risks identified and how they are being managed, including formal reports by the Strategic Risk Management Committee to the Board that are at least annual.

Risks are reviewed regularly by the Board as a whole at each Board meeting. The risk oversight focus areas reviewed by the Board as a whole include risks related to the Company s capital structure, mergers and acquisitions, capital projects, and environmental, health and safety risks.

The Board also implements its risk oversight function through Committees, which provide reports regarding their activities to the Board at each meeting. The risk oversight focus areas of the committees are:

Audit Committee

- Regularly reviews the Company’s major financial risk exposures, including hedging, swaps and derivatives, and the steps management has taken to monitor and control such exposures.
- Assists in identifying, evaluating and implementing risk management controls and methodologies to address identified risks.
- Regularly reviews risks relating to pension plan investments.
- Regularly reviews risks relating to cyber security.

Corporate Governance and Nominating Committee

- Regularly reviews the risks associated with the Company’s governance practices, Board composition and refreshment (including independence of directors) and committee leadership.
- Assists in identifying, evaluating and implementing risk management controls and methodologies to address identified risks.

Compensation Committee

- Considers risks related to the attraction and retention of personnel.
- Considers risks relating to the design of compensation programs and arrangements applicable to both employees and executive officers, including the Company’s annual incentive and long-term incentive programs.
- Concluded that the Company’s compensation policies and procedures are not reasonably likely to have a material adverse effect on the Company.

The Board s Role in Succession Planning

The Board regularly reviews plans for succession to the position of Chief Executive Officer as well as certain other senior management positions. To assist the Board, the Chief Executive Officer annually provides the Board with an assessment of senior managers and of their potential to succeed him or her. The Chief Executive Officer also provides the Board with an assessment of persons considered potential successors to certain senior management positions.

Corporate Responsibility and Sustainability

MTI s values are rooted in sustainability. We manage our operations, our capital and our business opportunities in a sustainable manner, and we place the health and safety of people ahead of everything else. The Company serves as a good steward of natural resources, and we employ sound social and environmental practices to protect the communities in which we operate. For the past ten years, we have issued a Corporate Responsibility and Sustainability Report outlining the Company s efforts in continuous improvement regarding safety, the environment, social impact on the workplace, finance and operations.

The Company is increasingly focused on diversity considerations. While diversity and inclusion have always been a key priority at MTI, we have brought more focus to these efforts over the past year by establishing a dedicated Diversity and Inclusion Council to advise the Chief Executive Officer on our progress in creating a work environment that values all of our employees.

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The Council will be responsible for determining the overall global diversity and inclusion strategy across the Company, which includes identifying initiatives, supporting the development of these initiatives, setting goals and measuring results / progress. The committee comprises employees across gender, ethnicity, business function, geographies and experiences to ensure we have a comprehensive mix of individuals and viewpoints.

We focus on continuous improvement in all facets of our business—processes, systems, products, services, people, cost reduction and productivity. As illustrated further below in our Global Corporate Governance diagram, Minerals Technologies has culture-based lead teams dedicated to the environment, health and safety, operating performance, expense reduction and sustainable growth. These cross-functional lead teams report directly to the Chief Executive Officer and are assisted by a senior executive appointed to bring additional expertise.

In addition to receiving detailed information on the Company s financial and operating performance, financial position and capital allocation, succession planning, and risk assessment, among other subjects, the Board of Directors receives performance metrics and updates on a monthly basis from all of the lead teams.

The Board is provided with regular reports on the lead teams activities. In particular, the Board is provided with a comprehensive safety briefing each quarter at Board meetings, and receives the following safety information each month: recordable injury rate, lost workday injury rate, injury details by business unit and geographic region, environmental releases, safety initiatives and policies.

Our social and environmental efforts have lead to our recent adoption of corporate Human Rights, Conflict Minerals and Supplier Code of Conduct policies, and to establishing our commitment to setting meaningful long-term environmental sustainability goals. Additional details on MTI s sustainability initiatives and metrics can be found in the company s Corporate Responsibility & Sustainability Report on the Company s website. This report is reviewed and approved by both the Chief Executive Officer and Chairman.

Shareholder Proposals and Nominations

The Company s by-laws describe the procedures that a shareholder must follow to nominate a candidate for director or to introduce an item of business at a meeting of shareholders. These procedures provide that, except as set forth in Proxy Access below, nominations for directors and items of business to be introduced at an annual meeting of shareholders must be submitted in writing to the Secretary of Minerals Technologies Inc. at 622 Third Avenue, New York, New York 10017-6707. If intended to be considered at an annual meeting, the nomination or proposed item of business must be received not less than 70 days nor more than 90 days in advance of the first anniversary of the previous year s annual meeting. Therefore, for purposes of the 2020 Annual Meeting, any nomination or proposal must be received between February 15 and March 6, 2020. With respect to any other meeting of shareholders, the nomination or item of business must be received not later than the close of business on the tenth day following the date of our public announcement of the date of the meeting. Under the rules of the Securities and Exchange Commission (SEC), if a shareholder proposal intended to be presented at the 2020 Annual Meeting is to be included in the proxy statement and form of proxy relating to that meeting, we must receive the proposal at the address above no later than 120 days before the anniversary of the mailing date of the Company s proxy statement in connection with the 2019 Annual Meeting. Therefore, for purposes of the 2020 Annual Meeting, any such proposal must be received no later than December 5, 2019.

CORPORATE GOVERNANCE

The nomination or item of business must contain:

- The name and address of the shareholder giving notice, as they appear in our books (and of the beneficial owner, if other than the shareholder, on whose behalf the proposal is made);
- the class and number of shares of stock owned of record or beneficially by the shareholder giving notice (and by the beneficial owner, if other than the shareholder, on whose behalf the proposal is made);
- a representation that the shareholder is a holder of record of stock entitled to vote at the meeting, and intends to appear at the meeting in person or by proxy to make the proposal; and
- a representation whether the shareholder (or beneficial owner, if any) intends, or is part of a group which intends, to deliver a proxy statement and form of proxy to holders of at least the percentage of outstanding stock required to elect the nominee or approve the proposal and/or otherwise solicit proxies from shareholders in support of the nomination or proposal.

Any notice regarding the introduction of an item of business at a meeting of shareholders must also include:

- A brief description of the business desired to be brought before the meeting;
- the reason for conducting the business at the meeting;
- any material interest in the item of business of the shareholder giving notice (and of the beneficial owner, if other than the shareholder, on whose behalf the proposal is made); and
- if the business includes a proposal to amend the by-laws, the language of the proposed amendment.

Any nomination of a candidate for director must also include:

- A signed consent of the nominee to serve as a director, and a written representation by the nominee that, if elected, he or she will comply with all of the Company's policies and guidelines applicable to the directors;
- the name, age, business address, residential address and principal occupation or employment of the nominee;
- the number of shares of the Company's common stock beneficially owned by the nominee; and
- any additional information that would be required under the rules of the SEC in a proxy statement soliciting proxies for the election of that nominee as a director.

Proxy Access

In addition to the shareholder nomination process outlined above, our by-laws provide that under certain circumstances, a shareholder or group of shareholder may include director candidates that they have nominated in our annual meeting proxy statement. These proxy access provisions of our by-laws provide, among other things, that a shareholder or group of up to twenty shareholders seeking to include director candidates in our annual meeting proxy statement must own 3% or more of our outstanding common stock continuously for at least the previous three years. The number of shareholder-nominated candidates appearing in any annual meeting proxy statement cannot exceed 20% of the number of directors then serving on the Board or two directors, whichever is greater. If 20% is not a whole number, the maximum number of shareholder-nominated candidates would be the closest whole number below 20%. Based on the current Board size of ten directors, the maximum number of proxy access candidates that we would be required to include in our proxy materials for an annual meeting is two. Nominees submitted under the proxy access procedures that are later withdrawn or are included in the proxy materials as Board-nominated candidates will be counted in determining whether the 20% maximum has been reached. If the number of shareholder-nominated candidates exceeds the maximum, each nominating shareholder or group of shareholders may select one nominee for inclusion in our proxy materials until the maximum number is reached. The order of selection would be determined by the amount (largest to smallest) of shares of our common stock held by each nominating shareholder or group of shareholders. The nominating shareholder or group of shareholders also must deliver the information required by our by-laws, and each nominee must meet the qualifications required by our by-laws. Requests to include shareholder-nominated candidates in our proxy materials for next year s annual meeting must be received by the Secretary of Minerals Technologies Inc. not earlier than the close of business on November 5, 2019 and not later than the close of business on December 5, 2019.

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Majority Voting

The Company s by-laws provide for majority voting for directors. Under the by-laws, in order for a director to be elected at the annual meeting in an uncontested election, a majority of the votes cast with respect to the director s election must be cast for the director. Any nominee for director who is an incumbent director and receives a greater number of votes withheld or against his or her election than votes for his or her election must, under the Company s Corporate Governance Guidelines, promptly tender his or her resignation to the Chairman of the Corporate Governance and Nominating Committee. The Committee must then recommend to the Board, within 90 days after the election, whether to accept or reject the resignation. Regardless of whether the Board accepts or rejects the tendered resignation, the Company must then promptly file a Current Report on Form 8-K with the SEC in which it publicly discloses and explains the Board s decision. In the event of a contested election of directors (an election of directors in which the number of candidates for election as directors exceeds the number of directors to be elected), directors will continue to be elected by the vote of a plurality of the shares represented in person or by proxy and entitled to vote on the election of directors.

Communications with Directors

Shareholders and any other interested parties may communicate by e-mail with the independent members of the Board at the following address: *independent.directors@mineralstech.com*. The independent members of the Board have access to all messages sent to this address; the messages are monitored by the office of the General Counsel of the Company. No message sent to this address will be deleted without the approval of the chair of the committee of the Board with primary responsibility for the principal subject matter of the message.

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COMMITTEES OF THE BOARD OF DIRECTORS

COMMITTEES OF THE BOARD OF DIRECTORS

The Board has established and approved formal written charters for an Audit Committee, a Compensation Committee, and a Corporate Governance and Nominating Committee. The full texts of the charters of these three committees are available on our website, *www.mineralstech.com*, by clicking on Our Company, then Corporate Governance, and then Policies and Charters. The charters are also available in print at no charge to any shareholder who requests them by writing to Secretary, Minerals Technologies Inc., 622 Third Avenue, New York, New York 10017-6707.

The Audit Committee

The Audit Committee currently consists of Mr. Robinson (Chair), Mr. Carmola, Mr. Feder, Ms. Pittman and Dr. Winter, none of whom is an employee of the Company. The Board has determined that each member of the Audit Committee is independent and financially literate in accordance with the rules of the New York Stock Exchange, as well as being independent under the rules of the SEC. The Board has also determined that Mr. Feder and Ms. Pittman are audit committee financial experts for purposes of Section 407 of the Sarbanes-Oxley Act of 2002 and have financial expertise for purposes of the rules of the New York Stock Exchange. The Audit Committee met six times in 2018.

The primary duties of the Audit Committee are:

- To assist the Board in its oversight of (i) the integrity of the Company's financial statements, (ii) the Company's compliance with legal and regulatory requirements, (iii) the qualifications and independence of the Company's independent registered public accounting firm, and (iv) the performance of the Company's internal audit function and independent registered public accounting firm;
- to appoint, compensate, and oversee the work of the independent registered public accounting firm employed by the Company (including resolution of disagreements between management and the auditors concerning financial reporting) for the purpose of preparing or issuing an audit report or related work. The independent registered public accounting firm shall report directly to the Committee;
- to prepare the report of the Committee required by the rules of the SEC to be included in the Company's annual proxy statement; and
- to discuss the Company's policies with respect to risk assessment and risk management, in executive sessions and with management, the internal auditors and the independent auditor, in particular with respect to the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures.

In addition to its regularly scheduled meetings, the Audit Committee is available either as a group or individually to discuss any matters that might affect the financial statements, internal controls or other financial aspects of the operations of the Company. The Chair of the Audit Committee may be reached at the following e-mail address: *audit.chair@mineralstech.com.*

The Compensation Committee

The Compensation Committee currently consists of Mr. Carmola (Chair), Mr. Breunig, Dr. Clark, Ms. Deans and Mr. Feder, none of whom is an employee of the Company. The Board has determined that each of the members of the Compensation Committee is independent in accordance with the rules of the New York Stock Exchange. The Compensation Committee met four times in 2018.

The primary duties of the Compensation Committee are:

- To participate in the development of our compensation and benefits policies;
- to establish, and from time to time vary, the salaries and other compensation of the Company's Chief Executive Officer and other elected officers;
- to review and approve the Company's incentive structure to avoid encouraging excessive risk-taking through financial incentives as well as the relationship between compensation and the Company's risk management policies and practices; and
- to participate in top-level management succession planning.

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COMMITTEES OF THE BOARD OF DIRECTORS

The Compensation Committee also oversees our efforts at promoting gender equity within our Company.

See Compensation Discussion and Analysis and Report of the Compensation Committee below for further discussion of the Compensation Committee s activities in 2018.

The Chair of the Compensation Committee may be reached at the following e-mail address: *compensation.chair@mineralstech.com*.

Compensation Committee Interlocks and Insider Participation

There were no Compensation Committee interlocks or insider (employee) participation during 2018.

The Corporate Governance and Nominating Committee

The Corporate Governance and Nominating Committee currently consists of Dr. Clark (Chair), Mr. Breunig, Ms. Deans, Mr. Robinson, Ms. Pittman and Dr. Winter, none of whom is an employee of the Company. The Board has determined that each of the members of the Corporate Governance and Nominating Committee is independent in accordance with the rules of the New York Stock Exchange. The Corporate Governance and Nominating Committee met four times in 2018.

The primary duties of the Corporate Governance and Nominating Committee are:

- The identification of individuals qualified to become Board members and the recommendation to the Board of nominees for election to the Board at the next annual meeting of shareholders or whenever a vacancy shall occur on the Board;
- the establishment and operation of committees of the Board;
- the development and recommendation to the Board of corporate governance principles applicable to the Company; and
- the oversight of an annual review of the Board’s performance.

The Corporate Governance and Nominating Committee is charged with recommending candidates for all directorships to the full Board. The Corporate Governance and Nominating Committee monitors the composition of the Board to assure that it contains a reasonable balance of professional interests, business experience, financial experience, and independent directors. If the Committee determines that it is in the best interests of the Company to add new Board members, it will identify and evaluate candidates as discussed in more detail above under Corporate Governance—Identification and Evaluation of Directors. Candidates are considered by the Committee in light of the qualifications for directors set forth above under Corporate Governance—Director Qualifications and Diversity Considerations.

See Report of the Corporate Governance and Nominating Committee, below, for further discussion of the Corporate Governance and Nominating Committee s activities in 2018. The Chair of the Corporate Governance and Nominating Committee may be reached at the following e-mail address: *governance.chair@mineralstech.com.*

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REPORT OF THE CORPORATE GOVERNANCE AND NOMINATING COMMITTEE

REPORT OF THE CORPORATE GOVERNANCE AND NOMINATING COMMITTEE

This report is an annual voluntary governance practice that highlights the Corporate Governance and Nominating Committee s activities during 2018. The Committee engaged in the following:

Governance Initiative. The Committee continued to spend considerable time reviewing and monitoring governance developments in 2018. The Committee reviewed the Company s policies on corporate governance, including the Corporate Governance Guidelines and the Company s Code of Business Conduct and Ethics, and charter of the Board s committees, including the charter of the Corporate Governance and Nominating Committee, to ensure that the Company s corporate governance practices meet applicable legal and regulatory requirements and emerging best governance practices and that the governance practices of the Board are transparent to shareholders and other interested parties. The Committee also continued to review the legal environment.

Shareholder Feedback. A substantial amount of time continued to be devoted to analyzing and understanding the advisory vote to approve executive compensation (say-on-pay) requirement, other results from the Company s annual meeting of shareholders, the Company s outreach to shareholders, and specific feedback from shareholders. The Committee reviewed several shareholder proposals received by the Company. The Committee also reviewed the reports and analyses of various proxy advisory services regarding areas of possible improvement in corporate governance practices as well as the changes in the proxy advisory services policies and procedures.

Director Refreshment. The Committee reviewed current Board membership, potential retirements and skill set needs for the Board members. The Committee updated its assessment of the experience, skills and attributes of current Board members and that the Board as a whole should possess. The Board has used a skills matrix to assist it in considering the appropriate balance of experience, skills and attributes required of a director and to be represented on the Board as a whole and the Committee determined that the matrix remained a useful tool in its assessment. In connection with its assessment, the Committee evaluated the diversity of the Board. This evaluation was then reviewed and discussed by the entire Board. It was determined by the Board based on the results of this evaluation that the Committee should initiate a search process for new members. This process lead to the recommendation of Ms. Deans by Mr. Dietrich and her election to the Board in March 2019.

Annual Performance Assessment. The Committee reviewed the Board s current evaluation process and continued to update the evaluation tools to incorporate the best practices. The Board s annual evaluation of the effectiveness and contributions of the Board are conducted via an electronic Board Self-Assessment Survey.

Continuing Education for Directors. The Committee reviewed and updated the orientation initiatives for new directors and the ongoing education programs.

Sustainability. The Committee also reviews and comments on the Company s annual Corporate Responsibility & Sustainability Report and oversees our sustainability efforts. In connection with this, the Committee reviewed the Company s efforts regarding setting environmental reduction targets, establishing policies consistent with environmental, social and governance efforts and establishing a Diversity and Inclusion Council to enhance the Company s efforts to promote diversity.

Robert L. Clark, Chair

Joseph C. Breunig

Alison A. Deans
Carolyn K. Pittman
Marc E. Robinson
Donald C. Winter

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CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Policies and Procedures for Approval of Related Party Transactions

The Company recognizes that related party transactions can present potential or actual conflicts of interest and create the appearance that Company decisions are based on considerations other than the Company s best interests and those of our shareholders. Therefore, our Board has adopted a formal, written policy with respect to related party transactions.

For the purpose of the policy, a related party transaction is a transaction in which the Company participates and in which any related party has a direct or indirect material interest, other than (1) transactions available to all employees or customers generally or (2) transactions involving less than $120,000 when aggregated with all similar transactions during the course of the fiscal year. Under the policy, a related party transaction may be entered into only (i) if the Corporate Governance and Nominating Committee approves or ratifies such transaction and if the transaction is on terms comparable to those that could be obtained in arm s-length dealings with an unrelated third party, or (ii) if the transaction has been approved by the disinterested members of the Board. Related party transactions may be approved or ratified only if the Corporate Governance and Nominating Committee or the disinterested members of the Board determine that, under all of the circumstances, the transaction is in the best interests of the Company.

2018 Related Party Transactions

There were no related person party transactions in 2018.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table shows the ownership of Company common stock by (i) each shareholder known to the Company that beneficially owned more than 5% of Company common stock, (ii) each director and nominee, (iii) each of the named executive officers, and (iv) all directors and executive officers as a group. The percentages of beneficial ownership set forth below are calculated as of January 31, 2019 based on outstanding shares of 35,230,165.

Title of Class	Name and Address of Beneficial Owner(a)	Amount and Nature of Beneficial Ownership(b)		Percent of Class	Number of Share Equivalent Units Owned(c)
Common	BlackRock, Inc. 55 East 52nd Street New York, NY 10055	4,122,961	(d)	11.7 %	—
	Vanguard Group Inc. 100 Vanguard Blvd. Malvern, PA 19355	3,274,257	(e)	9.3 %	—
	T. Rowe Price Associates, Inc. 100 E. Pratt Street Baltimore, MD 21202	1,904,490	(f)	5.4 %	—
	D.T. Dietrich	199,643	(g)	*	5,275
	M.E. Garth	10,990	(h)	*	629
	D.J. Monagle, III	191,908	(i)	*	3,766
	T.J. Meek	191,276	(j)	*	7,861
	J.J. Hastings	87,059	(k)	*	1,814
	J.C. Breunig	1,200		*	5,472
	J.J. Carmola	1,200		*	9,052
	R.L. Clark	200		*	16,241
	D.R. Dunham	1,700		*	27,719
	F.L. Feder	450		*	2,575
	C.K. Pittman	400		*	10,646
	M.E. Robinson	408		*	1,933
	D.C. Winter	400	(l)	*	13,355
	Directors and Officers as a group (17 individuals)	878,127	(m)	2.5 %	119,963

* Less than 1%.

(a) The address of each director and officer is c/o Minerals Technologies Inc., 622 Third Avenue, New York, New York 10017-6707.

(b) Sole voting and investment power, except as otherwise indicated. Does not include Share Equivalent Units.

(c) Share Equivalent Units, which entitle the officer or director to a cash benefit equal to the number of units in his or her account multiplied by the closing price of our common stock on the business day prior to the date of payment, have been credited to Messrs. Dietrich, Monagle and Meek under the Nonfunded Deferred Compensation and Supplemental Savings Plan; and to Mr. Breunig, Mr. Carmola, Dr. Clark, Mr. Dunham, Mr. Feder, Mr. Robinson, Ms. Pittman and Dr. Winter under the Nonfunded Deferred Compensation and Unit Award Plan for Non-Employee Directors (See Director Compensation below.).

(d) Based on a statement on Schedule 13G/A filed on January 31, 2019 with the SEC on behalf of BlackRock, Inc. representing ownership as of December 31, 2018. According to BlackRock Inc.'s Schedule 13G/A, various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of the Company's common stock, but no such person's interest in the Company's common stock is more than 5% of the Company's aggregate outstanding shares of common stock.

(e) Based on a statement on Schedule 13G/A filed on February 11, 2019 with the SEC on behalf of investment adviser Vanguard Group Inc. representing ownership as of December 31, 2018.

(f) Based on a statement on Schedule 13G/A filed on February 14, 2019 with the SEC on behalf of investment adviser T. Rowe Price Associates, Inc. representing ownership as of December 31, 2018.

(g) 126,500 of these shares are subject to options which are exercisable currently or within 60 days.

(h) 8,355 of these shares are subject to options which are exercisable currently or within 60 days.

(i) 142,510 of these shares are subject to options which are exercisable currently or within 60 days.

(j) 133,288 of these shares are subject to options which are exercisable currently or within 60 days.

(k) 54,422 of these shares are subject to options which are exercisable currently or within 60 days.

(l) Shares held in joint tenancy with spouse.

(m) 566,634 of these shares are subject to options which are exercisable currently or within 60 days.

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SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934 requires our directors, executive officers and any persons who own more than 10% of our common stock to file reports of ownership and changes in ownership with the SEC. Based solely on a review of our records and of copies furnished to us of reports under Section 16(a) of the Securities Exchange Act of 1934, or written representations that no such reports were required, we believe that all reports required to be filed by our directors, officers and greater than 10% shareholders were timely filed, with the exception of a Form 4 covering the receipt of phantom stock units, was inadvertently filed late for each of the following individuals: Mr. Breunig, Mr. Carmola, Dr. Clark, Mr. Dunham, Mr. Feder, Ms. Pittman, Mr. Robinson, and Dr. Winter.

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ITEM 1—ELECTION OF DIRECTORS

The Board is divided into three classes. One class is elected each year for a three-year term. This year the Board has nominated Mr. Douglas T. Dietrich, Ms. Carolyn K. Pittman and Dr. Donald C. Winter, each of whom are currently directors of the Company, to serve for a three-year term expiring at the Annual Meeting to be held in 2022.

We have no reason to believe that the nominees will be unable or unwilling to serve if elected. However, if any nominee should become unable for any reason or unwilling for good cause to serve, your proxy may be voted for another person nominated as a substitute by the Board, or the Board may reduce the number of Directors.

Included in each Director and nominee s biography below is a description of key qualifications and experience of such Director or nominee based on the qualifications described above. The Board believes that the combination of the various qualifications and experiences of the 2019 Director nominees would contribute to an effective and well-functioning Board.

Item 1. Election of Directors

Board Recommendation

A vote FOR election of Mr. Douglas T. Dietrich, Ms. Carolyn K. Pittman and Dr. Donald C. Winter is unanimously recommended.

Director Nominees for Terms Expiring in 2022

DOUGLAS T. DIETRICH

Age: 50

Director Since: 2016

Committees:

None

Chief Executive Officer of Minerals Technologies Inc. since December 2016. Served as Senior Vice President-Finance and Chief Financial Officer for Minerals Technologies Inc. since January 1, 2011 after serving three years as Vice President, Corporate Development and Treasury. Prior to joining Minerals Technologies Inc., Mr. Dietrich held positions of increasing leadership at Alcoa Inc., including Vice President, Alcoa Wheel Products—Automotive Wheels and President, Alcoa Latin America Extrusions.

Key Qualifications and Experience:

- *Relevant Chief Executive Officer/President Experience*—Chief Executive Officer of the Company effective 2016.
- Operational and Engineering Experience—Extensive experience in engineering, management, product delivery and operations.
- *High Level of Financial Literacy*—Extensive financial oversight experience in senior management roles with the Company, including as Chief Financial Officer from 2011 to 2016, and with Alcoa Inc.
- *Industry and Technology Experience*—Extensive experience in the industrial goods, mining and metals manufacturing field.
- *Extensive International Experience*—Experience from leadership positions with several international divisions of Alcoa Inc.

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ITEM 1—ELECTION OF DIRECTORS

CAROLYN K. PITTMAN

Age: 55

Director Since: 2017

Committees:

- Audit Committee
- Corporate Governance and Nominating Committee

Independent consultant and serves on SAP's Independent Executive Advisory Council. Former Vice President-Finance and Controller for Huntington Ingalls Newport News Shipbuilding from 2011 to 2018. Joined Huntington Ingalls Newport News Shipbuilding in 2011, a spin-off sector of the Northrop Grumman Corporation. At Northrop Grumman, Ms. Pittman was Vice President and Chief Financial Officer, Enterprise Shared Services and Information Technology, from 2008 to 2011. She joined Northrop Grumman as a manager in 1995 and attained positions of increasing responsibility, including Vice President, Sector Controller, Vice President, internal audit, and Chief Audit Executive. Ms. Pittman began her career with Ernst & Young LLC, where she held positions within audit and assurance services from 1985 to 1995.

Key Qualifications and Experience:

- *High Level of Financial Literacy*—Extensive financial oversight experience in senior management roles with Huntington Ingalls Newport News Shipbuilding and Northrop Grumman.
- *Operational Experience*—Extensive experience in enterprise shared services, information technology, and audit roles with Northrop Grumman.
- *Risk Management Experience*—Extensive experience with Enterprise Risk Management evaluation, Sarbanes-Oxley Risk and Control Matrices, and business continuity planning.
- *Industry and Technology Experience*—Extensive experience with project management of large ERP conversions, governance, risk and control systems, and IT controls. Certified Information Systems auditor.

DONALD C. WINTER

Age: 70

Director Since: 2014

Committees:

- Audit Committee
- Corporate Governance and Nominating Committee

Special Government Employee Office of Secretary of Defense, United States Department of Defense, since 2019. Independent consultant and a Professor of Engineering Practice at the University of Michigan, where he teaches graduate level courses on Systems Engineering, Safety and Reliability, and Maritime Policy. Dr. Winter served as the Chairman of the Board for the American Lightweight Materials Manufacturing Innovation Institute, a 501(c)3 chartered in Michigan, from 2014 to 2017. In 2016, Dr. Winter was appointed as Chairman of the Australian Naval Shipbuilding Advisory Board by the Prime Minister of Australia. Dr. Winter served as the 74^{th} Secretary of the Navy from January 2006 to March 2009. Previously, Dr. Winter held multiple positions in the aerospace and defense industry as a systems engineer, program manager and corporate executive. From 2000 to 2005, he was President and CEO of TRW Systems (later Northrop Grumman Mission Systems), which he joined in 1972. In 2002, he was elected a member of the National Academy of Engineering.

Key Qualifications and Experience:

- *Industry and Technology Experience*—Extensive experience in the aerospace and defense industry as a systems engineer, program manager and corporate executive.

- *Engineering Expertise*—Holds a doctorate in physics from the University of Michigan and elected as a member of the National Academy of Engineering.
- *Operational and International Experience*—President and CEO of TRW Systems (later Northrop Grumman Mission Systems) from 2010 to 2012, a business engaged in systems engineering, information technology and services addressing defense, intelligence, civil and commercial markets, with operations throughout the U.S., U.K., Northern and Eastern Europe, the Middle East and the Pacific Rim.
- *Governmental Experience*—Served as 74th Secretary of the Navy, where he led America's Navy and Marine Corps Team, from January 2006 to March 2009.

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ITEM 1—ELECTION OF DIRECTORS

Directors Whose Terms Expire in 2020

JOSEPH C. BREUNIG

Age: 57

Director Since: 2014

Committees:

- Corporate Governance and Nominating Committee
- Compensation Committee

Currently a consultant for private equity. Former Executive Vice President, Chemicals at Axiall Corporation from 2010 to 2016. Executive Vice President and Chief Operating Officer, BASF Corporation and President, Market and Business Development, North America, BASF SE, from 2005 to 2010. Increasing positions of responsibility since joining BASF Corporation in 1986 as a process engineer, including Global Marketing director, Fiber Products Division, from 1998 to 2000; director, Global Technology, Functional Polymers from 2000 to 2001; and Group Vice President, Functional Polymers from 2001 to 2005. He also serves on the board of directors of Incitec Pivot Limited, an Australian company, since June 2017.

Key Qualifications and Experience:

- *Industry and Technology Experience*—Former Vice President, Chemicals at Axiall Corporation and Former Executive Vice President and Chief Operating Officer at BASF Corporation, the world's leading chemical company.
- *Operational Experience*—Extensive experience in engineering, management, marketing and operations.

ALISON A. DEANS

Age: 57

Director Since: 2019

Committees:

- Corporate Governance and Nominating Committee
- Compensation Committee

Currently an independent consultant focusing on the investment advisory and diversified financial services industry. Chief Investment Officer at CRT, a diversified financial services business, from 2014 to 2015. Previously, Ms. Deans worked at Lehman Brothers/Neuberger Berman from 2004 to July 2009. Her last positions there were Head of Equities and Private Asset Management. She also served as Chief Investment Officer overseeing the policy, risk and performance measurement groups for both fixed income and equities as well as the Equity Research Department. Prior to Lehman Brothers, she was Chief Financial Officer of Commercial Banking for BankOne from 2000 to 2003. Prior to BankOne, Ms. Deans spent nine years at Travelers/Citigroup, where, from 1999 to 2000, she was Director of Development at Citigroup.

Key Qualifications and Experience:

- *High Level of Financial Literacy*—Extensive financial oversight experience in senior management roles with CRT, Lehman Brothers/Neuberger Berman, BankOne, and Travelers/Citigroup.
- *Market Experience*—Extensive experience in financial markets as Chief Investment Officer at CRT and Lehman Brothers/Neuberger Berman.

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ITEM 1—ELECTION OF DIRECTORS

DUANE R. DUNHAM

Age: 77

Director Since: 2002

Committees:

None

Chairman of the Board of Directors of the Company since 2016. Former President and Chief Operating Officer of Bethlehem Steel Corporation since January 2002. Chairman and Chief Executive Officer of Bethlehem Steel from April 2000 to September 2001. President and Chief Operating Officer from 1999 to April 2000 and President of the Sparrows Point division from 1993 to 1999. Director of Bethlehem Steel Corporation from 1999 to 2002.

Key Qualifications and Experience:

- *Relevant Chief Executive Officer/President Experience*—Former Chairman and Chief Executive Officer of Bethlehem Steel Corporation.
- *Industry and Technology Experience*—Extensive experience in the steel industry, one of the Company's important market areas.
- *Board Experience*—Prior service on the Company's Board, as well as on the board of Bethlehem Steel Corporation.
- *Operational Experience*—Experience in manufacturing, management and operations, mining operations and reserves, marketing, labor relations, environmental, health and safety oversight, compensation, and human resources oversight with Bethlehem Steel Corporation.

FRANKLIN L. FEDER

Age: 68

Director Since: 2017

Committees:

- Compensation Committee
- Audit Committee

Former Regional Chief Executive Officer for Latin America and Caribbean, Alcoa Inc., from 2004 to 2014. Prior to that, Mr. Feder was Vice President and Director—Corporate Development, Alcoa from 1999 to 2004 and Chief Financial Officer, Alcoa Latin America and Director—Planning from 1990 to 1999. Prior to joining Alcoa, Mr. Feder was Partner with the then Booz, Allen & Hamilton management consulting organization. He serves on the board of directors of PACCAR, Inc. since 2018. He also serves on the boards of directors of several Brazilian companies, including Companhia Brasileira de Aluminio, AES Tietê S.A. and InterCement S.A, as well as on the board of Loma Negra, an Argentine company listed on the New York Stock Exchange. He also serves on the boards of directors of corporate social responsibility and environmental organizations in Brazil.

Key Qualifications and Experience:

- *Extensive International Experience*—Experience from leadership positions with Alcoa Inc., including as Regional Chief Executive Officer for Latin America & the Caribbean.
- *High Level of Financial Literacy*—Extensive financial oversight experience in senior management roles with Alcoa Inc.
- *Board Experience*—Service on the Company's Board, as well as on the boards of PACCAR, Inc., a U.S. public company, and several public and private companies in Brazil and Argentina.
- *Industry and Technology Experience*—Extensive experience in the manufacturing field with Alcoa Inc.

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ITEM 1—ELECTION OF DIRECTORS

Directors Whose Terms Expire in 2021

JOHN J. CARMOLA

Age: 63

Director Since: 2013

Committees:

- Audit Committee
- Compensation Committee (Chairman)

Former Segment President at Goodrich Corporation, which was purchased by United Technologies. Previously, President, Aerospace Customers and Business Development of United Technologies in 2012. From 1996 to 2012, held several positions of increasing responsibility at Goodrich, including Segment President for Actuation and Landing Systems and Segment President of Engine Systems and Group President for Engine/Safety/Electronic Systems. From 1977 to 1996, held various engineering and general management positions at General Electric, including Manager of the M&I Engines Division's Product Delivery Operation.

Key Qualifications and Experience:

- *Relevant President Experience*—Former Segment President at Goodrich Corporation and former President, Aerospace Customers and Business Development of United Technologies.
- *Operational and Engineering Experience*—Extensive experience in engineering, management, product delivery and operations.

ROBERT L. CLARK

Age: 55

Director Since: 2010

Committees:

- Compensation Committee
- Corporate Governance and Nominating Committee (Chairman)

Provost and Senior Vice President for Research since July 2016. Senior Vice President for Research since 2013 and Professor and Dean of the Hajim School of Engineering and Applied Sciences, University of Rochester since September 2008. Dean of the Pratt School of Engineering at Duke University August 2007 to September 2008. Between 1992 and August 2007, held increasing positions of academic responsibility at Duke University from Assistant Professor to Senior Associate Dean of Pratt School of Engineering and Chair, Mechanical Engineering and Materials Science. Chair of Strategic Research Advisory Board at AIT Austrian Institute of Technology GmbH since 2013.

Key Qualifications and Experience:

- *Industry and Technology Experience*—Extensive academic experience in the materials science field at the University of Rochester and Duke University.
- *Research and Development Expertise*—Extensive research and development experience through various roles, including his current position as Senior Vice President for Research, University of Rochester, and formerly Senior Associate Dean for Research, Pratt School of Engineering, Duke University and Vice President and Senior Research Scientist for Adaptive Technologies Incorporated.
- *Intellectual Property Management Experience*—Founder of the intellectual property company SparkIP.
- *Process Manufacturing Expertise*—Holds a Ph.D. in Mechanical Engineering from Virginia Polytechnic Institute and State University and research in this field.
- *Government Contracting Expertise*—Headed numerous research programs funded by government agencies, including the National Aeronautics and Space

Administration and the National Science Foundation.

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MARC E. ROBINSON

Age: 58

Director Since: 2012

Committees:

- Audit Committee (Chairman)
- Corporate Governance and Nominating Committee

Senior Vice President, Enterprise Strategy of Aetna since July 2017. Managing Director of PwC Strategy& from 2015 to 2017. Senior Executive Advisor of Booz & Company from 2011 to 2015.Company Group Chairman of Johnson & Johnson from 2007 to 2011. Global President Consumer Healthcare Division of Pfizer from 2003 to 2006. North American President Consumer Healthcare Division of Pfizer from 2000 to 2002. Regional President, Australia and New Zealand of Warner-Lambert Company from 1999 to 2000. General Manager European Business Process Improvement of Warner-Lambert Company from 1996 to 1998. Marketing Assistant, Assistant Product Manager of General Mills from 1984 to 1986. Member of the Capsugel Scientific and Business Advisory Board from May 2012 to July 2017.

Key Qualifications and Experience:

- *High Level of Financial Literacy*—Extensive experience in managing global and regional business units for Johnson & Johnson, Pfizer Inc. and Warner-Lambert Company.
- *Industry and Technology Experience*—Extensive strategic and operational experience in the consumer health care industry, with special focus in marketing, sales, research and development, finance, and human resources at Johnson & Johnson, Pfizer Inc. and Warner-Lambert Company.
- *Operational Experience*—Extensive experience in innovation, human capital development, mergers and acquisitions, licensing, and global marketing.
- *Global Expertise*—Extensive global experience managing large multi-functional businesses in emerging and developed markets in North America, Europe, Asia-Pacific, and Latin America.

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ITEM 2—RATIFICATION OF APPOINTMENT OF AUDITORS

ITEM 2—RATIFICATION OF APPOINTMENT OF AUDITORS

The Audit Committee of the Board has appointed KPMG to serve as our independent registered public accounting firm for the current fiscal year, subject to the approval of shareholders. KPMG and its predecessors have audited the financial records of the businesses that comprise the Company since 1992. We consider the firm well qualified.

We expect that representatives of KPMG will be present at the Annual Meeting of Shareholders. These representatives will have the opportunity to make a statement if they wish to do so, and will be available to respond to appropriate questions.

Item 2. Ratify Auditors

Board Recommendation

A vote FOR ratification of the appointment of KPMG LLP as our independent registered public accounting firm for the 2019 fiscal year is unanimously recommended.

REPORT OF THE AUDIT COMMITTEE

The Audit Committee assists the Board in fulfilling its responsibility for oversight of the quality and integrity of the accounting, auditing and reporting practices of the Company. As part of fulfilling its oversight responsibility, the Audit Committee reviewed and discussed with management the audited financial statements of the Company, including the audit of the effective operation of, and internal control over, financial reporting, for the fiscal year ended December 31, 2018. In addition, the Audit Committee discussed with the Company s independent registered public accounting firm the matters required to be discussed by Public Company Accounting Oversight Board Auditing Standard No. 1301, Communications with Audit Committees.

The Audit Committee has discussed with KPMG the independent accountant s independence from the Company and has received from KPMG the written disclosures and the letter required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent accountant s communications with the Audit Committee concerning independence.

Principal Accounting Fees and Services

The Company incurred the following fees for services performed by KPMG in fiscal years 2018 and 2017:

	2018	2017
Audit Fees	$ 3,294,502	$ 3,283,678
Audit Related Fees	84,137	75,180
Tax Fees	98,732	99,617
All Other Fees	13,849	10,725
Total Fees	$ 3,491,220	$ 3,469,200

Audit Fees

Audit fees are fees the Company paid to KPMG for professional services for the audit of the Company s consolidated financial statements included in the Annual Report on Form 10-K, including fees associated with the audit of the effective operation of, and internal control over financial reporting, and review of financial statements included in Quarterly Reports on Form 10-Q, or for services that are normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements.

Audit Related Fees

Audit related fees are billed by KPMG for assurance services that are reasonably related to the audit or review of the Company s financial statements, including due diligence and benefit plan audits.

Tax Fees

Tax fees are fees billed by KPMG for tax compliance and tax advice.

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All Other Fees

All other fees are fees billed by KPMG to the Company for any services not included in the first three categories.

Pre-Approval Policy

The Audit Committee established a policy that requires it to approve all services provided by its independent registered public accounting firm before the independent registered public accounting firm provides those services. The Audit Committee has pre-approved the engagement of the independent registered public accounting firm for audit services, audit-related services, tax services and all other fees within defined limits. All of the Audit Fees, Audit Related Fees, Tax Fees and All Other Fees paid to KPMG were approved by the Audit Committee in accordance with its pre-approval policy in fiscal year 2018.

The Audit Committee considered all these services in connection with KPMG s audits of the Company s financial statements, and the effective operation of, and internal control over, financial reporting for the fiscal years ended December 31, 2018 and 2017, and concluded that they were compatible with maintaining KPMG s independence from the Company in the applicable periods.

Based upon the review and discussions referred to above, the Audit Committee recommended to the Board that the Company s audited financial statements be included in the Company s Annual Report on Form 10-K for the fiscal year ended December 31, 2018, for filing with the SEC.

Marc E. Robinson, Chair
John J. Carmola
Franklin L. Feder
Carolyn K. Pittman
Donald C. Winter

ITEM 3—ADVISORY VOTE TO APPROVE 2018 NAMED EXECUTIVE OFFICER COMPENSATION

The Board of Directors is asking you to approve, on an advisory basis, the 2018 compensation of our named executive officers as described in the Compensation Discussion and Analysis and Compensation of Executive Officers and Directors sections of this Proxy Statement. This proposal is commonly known as Say-on-Pay.

While this vote is advisory, and not binding on the Company, the Compensation Committee or the Board of Directors, it will provide information to us regarding investor sentiment about our executive compensation philosophy, policies and practices, which the Compensation Committee will be able to consider when determining executive compensation for the future. This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the philosophy, policies and practices described in this Proxy Statement. You should read the Compensation Discussion and Analysis, which discusses how our executive compensation policies and programs implement our executive compensation philosophy, and the Compensation of Executive Officers and Directors section which summarizes the 2018 compensation of our named executive officers.

In determining whether to approve this proposal, we believe you should consider how we link pay to performance, which is discussed in detail in the Compensation Discussion and Analysis section under How We Tie Pay to Performance. In particular you should bear in mind:

- The Company has continued to deliver strong results as measured both by our financial performance and execution of our strategies of geographic expansion, new product development and acquisitions. The Company achieved record earnings for the ninth consecutive year with earnings of $4.84 per share, excluding special items, in 2018. This represents 13% compound annual growth from 2010 to 2018.
- Over 80% of the compensation of our Chief Executive Officer, Douglas T. Dietrich, is at risk and variable depending on company and individual performance. We believe that the compensation received by our named executive officers in respect of fiscal year 2018 appropriately aligned executive pay with our performance
- In 2018, we continued to extensively engage with our shareholders with respect to our corporate governance and compensation practices.

Accordingly, the Board of Directors recommends approval of the following resolution:

RESOLVED, that shareholders of the Company approve, on an advisory basis, the compensation paid to the Company s named executive officers in 2018, as disclosed in the Company s Proxy Statement for the 2019 Annual Meeting of Shareholders pursuant to the compensation disclosure rules of the Securities and Exchange Commission (which disclosure includes the Compensation Discussion and Analysis, the compensation tables, and any related tables and disclosure).

Item 3. Advisory Vote to Approve Executive Compensation

Board Recommendation

A vote FOR the advisory vote approving 2018 named executive officer compensation is unanimously recommended.

COMPENSATION DISCUSSION AND ANALYSIS

Introduction

This Compensation Discussion and Analysis provides you with a detailed description of our executive compensation philosophy and programs, the compensation decisions the Compensation Committee has made under those programs and the factors considered in making those decisions. Our compensation program for senior executives is governed by the Compensation Committee, which determines the compensation of all ten of the current executive officers of the Company. This discussion and analysis focuses on our named executive officers—our Chief Executive Officer, our Chief Financial Officer, and the three other most highly compensated executive officers who were serving as executive officers on December 31, 2018. The named executive officers for 2018 were:

Name	Title
Douglas T. Dietrich	Chief Executive Officer
Matthew E. Garth	Senior Vice President, Finance and Treasury, Chief Financial Officer
D.J. Monagle III	Group President, Specialty Minerals and Refractories
Thomas J. Meek	Senior Vice President, General Counsel, Human Resources, Secretary and Chief Compliance Officer
Jonathan J. Hastings	Group President, Performance Materials

How We Tie Pay to Performance

Our executive compensation program is designed to reward the achievement of the short-term and long-term objectives of the Company, to attract and retain world-class talent, and to relate compensation to the value created for our shareholders. We also believe that as an employee s level or responsibility increases, so should the proportion of performance-based compensation. As a result, our executive compensation programs closely tie pay to performance.

2018 Business and Performance Review

Our Business

MTI continues to be a strong operating company, financially disciplined, transparent in its communications, close to its customers, with an aligned management team and a very engaged workforce. In 2018, the Company delivered strong results as measured both by our financial performance and execution of our strategies of geographic expansion, new product development and acquisitions.

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COMPENSATION DISCUSSION AND ANALYSIS

Financial Performance

The following is a summary of our performance highlights for 2018, as well as comparisons of our performance to prior years. In this Compensation Discussion and Analysis, as well as in the Proxy Summary, we refer to earnings per share excluding special items and operating income excluding special items and unallocated corporate expenses, which are non-GAAP financial measures. See Appendix A to this Proxy Statement for a reconciliation to our results as reported under GAAP.

- The Company achieved record earnings in 2018 for the ninth consecutive year with earnings of $4.84 per share, excluding special items, as compared with $4.59 per share in 2017. This represents 13% compound annual growth from 2010 to 2018.

- Our consolidated sales were a record $1.808 billion with growth in all regions. Asia sales increased 6%, driven by expansion and penetration efforts in Paper PCC and Metalcasting.

- Sales per employee increased 7% over the prior year.

- Our consolidated sales and operating income were $1,808 million and $261 million, respectively, in 2018. Income from operations, excluding special items and unallocated corporate expenses, decreased 2% from the prior year level, as the Company faced rising raw materials, logistics and energy costs. We were able to partially offset these increases through pricing actions, cost reduction and improved productivity.

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COMPENSATION DISCUSSION AND ANALYSIS

- Our Minerals Businesses, which comprises the Performance Materials and Specialty Minerals segments, represented about 78% of MTI's sales and 82% of MTI's operating income in 2018. Sales increased 7% in 2018 to $1.417 billion. However, operating income decreased 3% and was 15.1% of sales in 2018 as a result of the aforementioned cost pressures.
- Our Services Businesses of Energy Services and Refractories reported sales of $390 million, a 10% increase from the prior year. Operating income for the Services businesses, excluding special items, increased 11% to $52 million.

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- The Company exercised good cost control and our SG&A and expenses represented 11.1% of sales in 2018 as compared with 12.2% in the prior year. Total SG&A expenses declined in 2018, including the absorption of Sivomatic expenses as a result of the acquisition.
- Our cash flow from operations for the year was strong at $204 million. Cash flows provided from operations in 2018 were used to fund capital expenditures of $76 million, to repay $80 million in debt and to return over $29 million to shareholders in the form of dividends and share repurchases.
- We have repaid $670 million over the last five years. Our net leverage ratio was 4.5 following the acquisition of AMCOL and was 2.2 at the end of 2018.

Strategic Growth

In 2018, MTI made significant progress on all three facets of our growth strategy: geographic expansion, new product development and acquisitions.

Geographic Expansion

- Our sales in Asia continue to increase, with growth in Asia of 6% in 2018, driven by the large opportunities we have in our Paper PCC and Metalcasting businesses.
- Over the past two years, we have secured contracts for over 400,000 tons of Paper PCC capacity in Asia, of which 165,000 tons were signed in 2018.
- Our penetration strategy for Metalcasting in Asia also continues to progress, with sales in the region up 7% over 2017.
- In 2018, we also generated double digit revenue growth in India, Turkey, Indonesia and Thailand.
- Though a smaller portion of our overall sales, our Pet Care, Refractories, Specialty Products and Basic Minerals businesses drove additional growth. These businesses increased sales in Asia by 58%, 24%, 38% and 22%, respectively.

New Product Development

- Our new product development pipeline provides insight into the new technologies that we have commercialized as well as others we are working to bring to the marketplace. The Company has a very strong pipeline from the development stage through to commercialization. The potential revenue value of the pipeline represents over $600 million.
- In 2018, we commercialized 35 new value-added products and increased the speed of development by 21%. These products have the potential to deliver over $100 million in annual revenue.

Acquisitions

- M&A also represents a strategic growth initiative of the Company and we continue to strengthen this component of our growth strategy.
- In 2018 we successfully acquired and integrated Sivomatic Holding B.V., a leading European supplier of premium pet litter products. The purchase price for Sivomatic was $123 million at an EBITDA multiple of 7.4. Sivomatic was accretive to earnings in 2018.
- With the addition of Sivomatic, we doubled the size of our pet litter business, expanded our geographic reach into Europe, brought additional premium products to our portfolio and increased our bentonite mineral reserves around the world.
- Our M&A strategy is to focus on minerals-based companies where we can leverage our strong technological expertise, drive growth in attractive markets and extend or deepen existing positions into new geographic regions, all of which were met by Sivomatic:

Operational Excellence

- We continue to improve productivity and efficiency through a disciplined effort of embedding Operational Excellence and Lean principles throughout the organization.
- We achieved a 6% productivity improvement in 2018 which marked the ninth consecutive year that MTI has improved productivity – measured in tons produced per hour – by more than 5%.
- Our efforts to embed Operational Excellence and Lean principles began in 2007. The engagement of our employees in our culture of continuous improvement is the foundation of MTI.
- In 2018 our employees held over 7,000 total Kaizen events (Kaizen events are highly focused improvement workshops that address a particular process or area) and generated over 59,000 ideas of which approximately 71% were implemented.

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COMPENSATION DISCUSSION AND ANALYSIS

Safety

- The safety of our employees is a core value at MTI – we place the health and safety of people above all else. We continue to drive our safety performance toward world class levels and strive for our target of zero injuries.
  - In 2018, more than 80% of our sites operated injury free.
- The chart below shows our recordable and lost workday injury rates based on the number of injuries per 100 employees. While our Total Recordable Injury Rate increased in 2018, there was a significant reduction in more serious injuries, as indicated by the nearly 40% reduction in our Lost Workday Injury Rate.
- The Lost Workday Injury Rate of 0.16 in 2018 represents the best lost workday performance in MTI's history and moves the Company closer to the world class milestone of 0.10. This performance is largely driven by an increase in the engagement of our employees in risk reduction activities, such as job observations, Gemba (the practice of personally visiting and seeing where work gets done), non-routine task risk assessment and near miss reporting.

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Total Shareholder Return

For those who wish to consider total shareholder return when evaluating executive compensation, the graphs below compare Minerals Technologies Inc. s cumulative 3-year total shareholder return on common stock with the cumulative total returns of the S&P 500 Index, the Dow Jones US Industrials Index, the S&P Midcap 400 Index, the Dow Jones US Basic Materials Index, and the S&P MidCap 400 Materials Sector. We also present a comparison of the Company s cumulative 3-year total shareholder return on common stock with the cumulative total return of the comparator group used for the Company s long-term incentive plan during this period. These graphs track the performance of a $100 investment in our common stock and in each index (with the reinvestment of all dividends) over the covered periods.

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COMPENSATION DISCUSSION AND ANALYSIS

Executive Compensation Practices

We highlight below certain executive compensation practices, both the practices we have implemented to incentivize performance and certain other practices that we have not implemented because we do not believe they would serve shareholders long-term interests:

What We Do

Pay for Performance – We tie pay to performance. The great majority of executive pay is not guaranteed. We set clear goals for corporate and business unit performance and differentiate based on individual achievement. The vast majority of our named executive officers' compensation is at-risk and variable depending on Company and individual performance.

Use Objective Financial Metrics – A substantial majority (80%) of the awards granted under our Annual Incentive Plan are based on the achievement of corporate financial metrics that we believe are challenging in light of the economic condition in the markets we serve and the risks to achieve high performance.

Link Long-Term Compensation to Stock Performance – The majority of our long-term awards are in the form of equity awards that vest over a three-year period. We believe that such awards directly link pay with the interests of shareholders. In addition, two of the three metrics in our cash-based long-term incentive plan are based on our stock performance.

Use An Appropriate Peer Group – We annually evaluate the peer group we use to ensure that we use appropriate comparators for benchmarking our compensation program.

Expect High Performance – We expect our executives to deliver sustained high performance year-over-year and over time to stay in their respective positions.

Review Tally Sheets – We review tally sheets for our named executive officers prior to making annual executive compensation decisions.

Have Appropriate Severance Arrangements – In 2016, we revised our officers' change-in-control arrangements to reduce the severance payable upon a change-in-control.

Double Trigger for Vesting on Change in Control – Our equity compensation plan provides for accelerated vesting of awards after a change in control only if an employee is also terminated (a double trigger).

Clawback – We have a policy to recoup certain incentive and other compensation payments (a clawback policy) t ensure that our executives do not retain undeserved windfalls and to enhance our pay-for-performance initiatives.

Minimal Perquisites – We provide only minimal perquisites that have a sound benefit to the Company's business.

Stringent Stock Ownership Guidelines – We have adopted stringent stock ownership guidelines—six times base salar for our CEO, four times base salary for our CFO and Group Presidents, three times base salary for our other executives, and five times the annual cash retainer for directors.

Retention Period on Exercised Stock Options and Vested DRSUs – Executives must hold for at least five years a minimum of 50% of after-tax value of appreciation of stock options upon exercise and retain at least 50% of stock received after-tax from Deferred Restricted Stock Units (DRSUs) upon vesting.

Independent Compensation Consulting Firm – The Compensation Committee benefits from its utilization of an independent compensation consulting firm which provides no other services to the Company.

What We Don't Do

We Do Not Pay Dividend Equivalents on Stock Options and Unvested DRSUs

No Repricing Underwater Stock Options or Backdating Stock Options

No Inclusion of the Value of Equity Awards in Pension or Severance Calculations

No Excise Tax Gross-Up Payments Upon Change In Control

No Hedging Transactions, Pledges of Stock Or Short Sales By Executives Permitted

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Relationship Between Company Performance and Chief Executive Officer Compensation for 2018

We have structured our compensation program to strongly tie our executives pay to performance. This is reflected in the compensation that was awarded to Mr. Dietrich. 85% of Mr. Dietrich s compensation was at-risk and variable depending on company and individual performance. The Compensation Committee believed 2018 compensation appropriately reflected the Company s strong financial and operational performance. As detailed below in this Compensation Discussion & Analysis, there are five main elements of our executive compensation program:

- Base salary is the only portion that is not at-risk and not performance-based.
- Annual incentive compensation is based on the Company's achievement with respect to two financial metrics we believe are the most important business metrics that lead to creation of shareholder value (Operating Income (OI) and Return on Capital (ROC)), representing 70% of the plan's bonus opportunity, and achievement of personal performance objectives, representing the remaining 30% of the plan's bonus opportunity. Our OI and ROC performance for the year was strong, leading to payment on this portion of the 2018 Annual Incentive Plan award opportunity at 112%. Mr. Dietrich's performance against his personal performance objectives was 134% of target. Accordingly, the total 2018 Annual Incentive Plan award paid for the year to Mr. Dietrich, based on Company and individual performance, was 119% of target.
- The majority of our long-term incentives are two forms of equity-based awards: stock options and DRSUs. These awards, which vest over three years, provide a direct link between pay and stockholder interests. We strongly believe that our equity-based awards are performance-based, as vesting only occurs if the executive continues to be employed by the Company on the vesting date. We have a high-performance culture. This means that we expect our executives to perform to high levels. As our history demonstrates, executives that do not meet such performance standards leave our Company and forfeit all of their unvested equity awards.
- The remaining long-term incentives are grants of Performance Units under our long-term incentive plan. The Performance Units pay out in cash based on three-year performance goals. Payouts are based on achievement relative to three goals: ROC, which is based on a three-year target in contrast to the one-year ROC target under our Annual Incentive Plan, and total shareholder return relative to a peer index and relative to the broader market. The Performance Units that vested on December 31, 2018 were granted in early 2016 and related to the 2016-2018 performance period. During this period, our total shareholder return was 86% of the peer index and approximately 96% of the broader market, and our ROC exceeded its target, which is based on the Company's cost of capital. This performance over the three-year performance period is reflected in pay-outs at a level of approximately 94% of target value per unit for units that vested at the end of 2018.

The table below shows payouts realized on Performance Units over the past ten years.

History of Performance Unit Payouts

Grant Date	Three Year Performance Period	Actual Payout as a Percentage of Payout at Target Performance
2016	2016 – 2018	94%
2015	2015 – 2017	81%
2014	2014 – 2016	154%
2013	2013 – 2015	190%
2012	2012 – 2014	266%

2011	2011 – 2013	220%
2010	2010 – 2012	150%
2009	2009 – 2011	78%
2008	2008 – 2010	40%
2007	2007 – 2009	0%

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The majority of our long term incentives are equity-based awards (stock options and DRSUs), which we believe provides a direct link between pay and stockholder interests. Realizable value is the value of an award subsequent to the grant date and is influenced by the Company s stock price. The focus on realizable value shifts the view of compensation from the future value on the date of grant to the current value of awards based on actual performance and the current stock price.

The following table provides the total realizable compensation for Mr. Dietrich, for the years 2016-2018, along with Mr. Dietrich s total compensation as reported in the Summary Compensation Table for that time frame. When calculating the values of DRSUs (stock awards) and option awards, the Summary Compensation Table reflects the grant-date values of the awards without consideration of the ultimate value (if any) that may be realized by the executive from these awards. For example, if the value of a DRSU on the date of grant was $50, we report its value in the Summary Compensation Table at $50, but its realizable value today could be higher or lower depending upon the stock s performance subsequent to the date of grant. Realizable value of a stock option is the option s in-the-money value that an executive officer could realize upon exercising the option. When calculating total realizable compensation, the value of each year s equity award was determined using the value of the award based on the Company s December 31, 2018 stock price for vested awards or, for awards outstanding and not vested, the expected value at vesting based on the December 31, 2018 stock price.

	Salary	Bonus	Stock Awards	Option Awards	Non-Equity Incentive Plan Compensation	Change in Pension Value and Non-Qualified Deferred Compensation Earnings	All Other Compensation	Total
2018								
Reported Value	$ 898,077	$ —	$ 1,260,046	$ 733,843	$ 1,651,674	$ 185,557	$ 46,209	$ 4,775,406
Realizable Value	$ 898,077	$ —	$ 850,858	$ —	$ 1,651,674	$ 185,557	$ 46,209	$ 3,632,375
2017								
Reported Value	$ 800,000	$ —	$ 979,994	$ 653,335	$ 1,349,616	$ 102,051	$ 42,171	$ 3,927,167
Realizable Value	$ 800,000	$ —	$ 644,830	$ —	$ 1,349,616	$ 102,051	$ 42,171	$ 2,938,668
2016								
Reported Value	$ 527,289	$ 150,000	$ 503,984	$ 326,738	$ 1,175,964	$ 33,618	$ 88,637	$ 2,806,230
Realizable Value	$ 527,289	$ 150,000	$ 675,840	$ 299,732	$ 1,175,964	$ 33,618	$ 88,637	$ 2,951,080

Consideration of Results of 2018 Shareholder Advisory Vote

As discussed above under Shareholder Engagement , we engage in an extensive, ongoing shareholder engagement effort discussing corporate governance, compensation and other matters. At our 2018 Annual Meeting, our shareholders approved the 2017 compensation of our named executive officers with 87% of the shares voting on the matter at the meeting voting in favor. We believe that the significant margin of approval of our 2018 Say-on-Pay proposal resulted in large measure from our shareholder engagement effort.

As a result of the vast majority of shares favoring our Say-on-Pay proposal at our 2018 Annual Meeting, and the positive feedback we received during our 2018 – 2019 shareholder outreach program, we have substantially maintained our executive compensation policies. The Compensation Committee will continue to consider the views of our shareholders in connection with our executive compensation program and make improvements based upon evolving best practices, market compensation information and changing regulatory requirements.

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What We Pay and Why: Elements of Our Compensation Program for Named Executive Officers

We have structured the major portion of executive compensation as total direct remuneration, consisting of base salary, annual incentive awards and long-term incentive awards. Long-term incentive awards consist of stock options, Deferred Restricted Stock Units (DRSUs), and Performance Units awarded under our long-term incentive plan. Additional elements supplement the total direct remuneration. As illustrated in the accompanying table, in 2018 the majority of total direct compensation to our named executive officers was performance-based and at-risk and was long-term in nature.

	2018 Target Direct Remuneration Mix(1)					
Name	**Fixed**	**At-Risk**	**Short-Term**	**Long-Term**	**Cash**	**Equity**
D.T. Dietrich	15 %	85 %	32 %	68 %	59 %	41%
M.E. Garth	22 %	78 %	38 %	62 %	58 %	42%
D.J. Monagle, III	22 %	78 %	39 %	61 %	62 %	38%
T.J. Meek	24 %	76 %	41 %	59 %	64 %	36%
J.J. Hastings	24 %	76 %	41 %	59 %	64 %	36%

(1) The only fixed component of total direct remuneration at the Company is base salary. All other elements of total direct remuneration are performance-based and at-risk (not guaranteed). The short-term components are base salary and annual incentives. The cash component includes base salary, annual incentives and Performance Units (which are denominated in and pay out in cash).

The table below summarizes the compensatory elements of our program and briefly explains their purpose. Following the table, we provide a detailed description of each element, why we pay it, and what decisions were made for individual payments and awards in 2018.

Element of Compensation Program	**Description**	**How This Element Promotes Company Objectives/Positioning vs. Market**
Annual Compensation:		
—Base Salary	Fixed annual compensation that is certain as to payment; provides continuous income to meet ongoing living costs.	Intended to be competitive with marketplace, to aid in recruitment and retention.
—Annual Incentives	Offers opportunity to earn performance-based compensation for achieving pre-set annual goals.	Motivate and reward achievement of corporate objectives.
Long-Term Compensation:		
—Stock Options	Stock options granted at fair market value on date of grant typically with ratable vesting over three years. This represents approximately 20% of target long-term incentive compensation for each individual.	More highly leveraged risk and reward alignment with shareholder value; vesting terms and holding requirements promote retention and a strong linkage to the long-term interests of shareholders.
—DRSUs		

	Full value grant of stock units typically with ratable vesting over three years. This represents approximately 40% of target long-term incentive compensation for each individual.	Intended to increase long-term equity ownership and to focus executives on providing shareholders with superior investment returns; vesting terms and holding requirements promote retention and a strong linkage to the long-term interests of shareholders.
—Performance Units	Units pay out in cash based on three-year performance goals. This represents approximately 40% of target long-term incentive compensation for each individual.	Units earned based on performance metrics that are believed to be key to achieving success in the Company's strategies.

COMPENSATION DISCUSSION AND ANALYSIS

Element of Compensation Program	Description	How This Element Promotes Company Objectives/Positioning vs. Market
Other Compensation Elements:		
—Retirement Income	Qualified and non-qualified defined benefit and qualified defined contribution plans intended to provide for replacement of annual compensation with pension or lump-sum payments upon retirement.	Fair and competitive program designed to provide basic retirement benefits and encourage long-term service.
—Deferred Compensation	Nonfunded deferred compensation plan that mirrors the Company's qualified defined contribution plan and allows for an annual election of deferrals of salary and bonus. Additionally, the program provides a second and separate election opportunity for the deferral of annual base salary and bonus for which these deferrals are credited with interest only.	Modest program that allows executives to have same level of benefits as other participants not subject to IRS limits.
—Severance Payments	Payments and benefits upon termination of an executive's employment in specified circumstances, including after a change in control.	Intended to provide assurance of financial security to attract lateral hires and to retain executives, especially in disruptive circumstances, such as a change in control and leadership transitions; encourages management to consider transactions that could benefit shareholders.
—Benefits	Health and welfare benefits.	Fair and competitive programs to provide family protection, facilitate recruitment and retention.
—Perquisites	Modest personal benefits limited to financial counseling.	Highly desired benefits which can represent cost-effective elements of compensation. We do not provide tax gross-ups for perquisites.

Base Salary

The Committee believes that the overall compensation to the named executive officers should include reasonable levels of fixed cash compensation in order to provide a level of assurance of compensation. Base salaries of our named executive officers are determined in accordance with their responsibilities, their tenure in position, performance and market data for the position, although no particular weight is assigned to any one factor. Each employee receives an annual performance rating early in the year. The performance rating of the Company s Chief Executive Officer is assigned by the Compensation Committee and approved by the Board. The performance ratings of other officers, including the named executive officers, are assigned by the Company s Chief Executive Officer, subject to review by the Compensation Committee. The named executive officers performance ratings were assigned by Mr. Dietrich in early 2018. Based on the Company s performance, general business outlook, and industry compensation trends, we set guidelines for average percentage compensation adjustments to salary for all employees for the coming year. The percentage increase received by a particular employee is determined on the basis of the employee s performance rating and current compensation level compared to similar marketplace positions.

The Committee determined that Mr. Dietrich s base salary would be $900,000 for 2018.

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Annual Incentives

We pay annual incentives through our Annual Incentive Plan. The 2018 Annual Incentive Plan is designed to reward participants for the achievement of pre-established Company-wide financial goals and individual contributions thereto, as well as to reward the achievement of individual performance goals, by providing cash awards that are paid if such goals are met. Target annual incentive payment amounts are calculated (as a rounded amount) from the officers base salaries using the following formula:

Base Salary X Target Percentage of Base Salary = Target Annual Incentive Compensation

The amount of incentive compensation actually earned by participants in the Annual Incentive Plan is determined by multiplying the target amount by a performance factor. The performance factor represents percentage achievement of weighted composite of corporate financial targets, personal performance objectives and, for those executives who are Business Unit heads, Business Unit financial targets. The overall performance factor for each element (corporate financial targets, Business Unit financial targets, and personal performance objectives) may individually range from a minimum of 25% to a maximum of 200%, for an overall maximum performance factor of 200%. Payout is equal to target incentive compensation if the performance factor for each element is achieved at 100%.

Summary of Payments

In January 2019, the Committee reviewed the results of the 2018 Annual Incentive Plan. Payments were determined based on the achievement of the performance factors described below. Individual performance ratings were submitted by the Chief Executive Officer for discussion and approval by the Committee. The performance factors actually achieved for 2018 and the resulting payments to the named executive officers under the 2018 Annual Incentive Plan were as follows:

Name	2018 Base Salary	Target Percentage of Base Salary	Target Annual Incentive Compensation	Maximum Annual Incentive Compensation	Performance Factor Achieved	2018 Incentive Compensation Earned
D.T. Dietrich	$ 900,000	110 %	$ 990,000	$ 1,980,000	118.8 %	$ 1,176,200
M.E. Garth	$ 500,000	75 %	$ 375,000	$ 750,000	122.8 %	$ 460,600
D.J. Monagle, III	$ 536,000	75 %	$ 402,000	$ 804,000	130.3 %	$ 523,700
T.J. Meek	$ 534,000	75 %	$ 400,500	$ 801,000	118.2 %	$ 473,300
J.J. Hastings	$ 506,700	75 %	$ 380,000	$ 760,000	111.1 %	$ 422,200

Calculating the Performance Factor

We maintain a strong link between performance and pay within our executive compensation program through emphasis on incentives and utilization of performance measures that we believe are key drivers of shareholder value creation. For the 2018 Annual Incentive Plan, we determined that two financial measures—Operating Income (OI) and Return on Capital (ROC)—are the most important business metrics that lead to creation of shareholder value, and therefore deserve significant focus. Performance of the Company with respect to these metrics was a significant factor in each executive s bonus opportunity. For executives who are Business Unit Heads (including Mr. Monagle and, for part of the year, Mr. Hastings), performance with respect to these financial targets within the executive s Business Unit was also a significant factor in such executive s bonus opportunity. The remainder of each executive s bonus opportunity was based on personal performance objectives. Approximately half of the personal performance objectives were based on quantifiable financial components: revenue, expense management, improvements in working capital, and certain productivity metrics, for which specific targets were established. Accordingly, financial components represented approximately 85% of the plan s target metrics.

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The table below summarizes the weightings for each element of the performance factor (corporate financial targets, Business Unit financial targets, and personal performance objectives) for each of our named executive officers, along with their achievement in 2018.

	Company Financial Targets		Business Unit Financial Targets		Personal Performance	
Name	**Weighting**	**Achievement**	**Weighting**	**Achievement**	**Weighting**	**Achievement**
D.T. Dietrich	70 %	112.1 %	—	—	30 %	134.4%
M.E. Garth	70 %	112.1 %	—	—	30 %	147.8%
D.J. Monagle, III	20 %	112.1 %	50 %	139.6 %	30 %	126.9%
T.J. Meek	70 %	112.1 %	—	—	30 %	132.3%
J.J. Hastings	41 %	112.1 %	29 %	89.6 %	30 %	130.8%

Company Level Financial Targets

As discussed above, the Committee selected OI and ROC as the two financial measures used to determine Company performance. For each measure, a Company performance target range was determined by weighting the average of individual Business Unit performance target ranges for these measures. Business Unit performance target ranges in turn represent a weighted average of sub-Business Unit level target ranges. The actual Company performance for 2018 for each measure also represented a weighted average of individual Business Unit actual performance for the measure. For purposes of determining the Company performance target ranges and actual 2018 performance, the Company s Business Units were weighted approximately 19% for Paper PCC, 14% for Refractories, 14% for Performance Minerals, 48% for Performance Materials, and 4% for Energy Services.

The following table sets forth, for each of the OI and ROC financial measures that we use to determine Company performance, the following:

- the performance target range for threshold and maximum performance, representing a weighted average composite of the Business Unit minimum (threshold) and maximum performance, respectively,
- the Company performance target if each of the Business Unit level performance factors were achieved at 100% of target, and
- actual 2018 performance, representing the weighted average composite performance of the Business Units.

	Threshold	**Target**	**Maximum**	**Actual 2018 Performance**
Operating Income	$167.0 million	$263.2 million	$329.7 million	$250.0 million
Return on Capital	5.6 %	8.8 %	11.0 %	9.2%

In determining the performance targets and target ranges for OI and ROC, the Committee took into consideration the economic conditions and risks of our market segments and the business development activities and goals for each of the Business Units. The Committee strived to design performance target ranges for OI and ROC that were attainable by the executive officers but challenging taking into consideration the economic condition in the markets we serve and the risks to achieve high performance. The OI targets set for 2018 reflected increases from 2017 actual OI performance for all Business Units, with the exception of the Paper PCC business unit, which faced several previously announced paper machine shutdowns, and the Refractories business unit, as a result of anticipated raw material cost increases. The ROC targets set for 2018 were above the Company s cost of capital, with the exception of those set for the Refractories and Energy Services Business Units.

A performance factor was determined for each measure based on the actual 2018 performance. The Company performance factor for each of the OI and ROC measures represents the weighted average of Business Unit level performance factors. For each Business Unit, actual 2018 performance for each measure was weighted—OI was weighted at 60% and ROC at 40%—and the weighted average performance corresponds to a performance factor based on an individual payout matrix for such Business Unit. For this purpose, the results from Sivomatic, which we acquired in April 2018, were not taken into account. The performance factors for 2018 were determined to be as follows:

- Paper PCC Business Unit: 154.4%
- Refractories Business Unit: 170.1%
- Performance Minerals Business Unit: 70.9%

- Performance Materials Business Unit: 89.6%
- Energy Services Business Unit: 53.9%
- Overall Company: 112.1%.

Business Unit Level Financial Targets

As discussed above, Business Unit level financial targets for OI and ROC contributed to the weighted average composite Corporate financial targets. In addition, for the executives who are Business Unit heads, individual Business Unit OI and ROC were factors in determining the bonus opportunity under the 2018 Annual Incentive Plan. As noted above, Business Unit targets in turn represent a weighted average of sub-Business Unit level targets.

Consistent with prior years, the Committee selected performance target ranges for each Business Unit s OI and ROC based upon recommendations of the Chief Executive Officer and after reviewing the Company s 2018 operating plan. The Committee also took into account the risks associated within each business unit as well as the economic conditions of the market each business unit serves. As described above, the Committee strived to design performance target ranges for OI and ROC that were attainable by the executive officers but challenging.

As with Company level financial targets, a performance factor was determined for each Business Unit level measure based on the actual 2018 performance. The Business Unit performance factors represent percentage achievement of sub-Business Unit level targets. Accordingly, the performance factor for a measure does not represent a straight-line relationship between the Business Unit level target performance ranges and the actual performance for such Business Unit. We do not publicly report the financial results at the Business Unit or sub-Business Unit levels.

Personal Performance Objectives

Personal performance objectives for executive officers during 2018, other than Mr. Dietrich, were set by Mr. Dietrich. Personal performance objectives for Mr. Dietrich were set and approved by the Compensation Committee with input from Mr. Dietrich.

The personal performance component provides rewards to executives in recognition of contributions in other key areas not captured in the OI and ROC financial metrics. Approximately half of the personal performance objectives were based on other quantifiable financial targets. Corporate staff executive officers had targets based upon expense control. Executive officers who are Business Unit Heads had targets based upon revenue growth, expense control, days of working capital reductions, and productivity improvements, with different specific weightings applied to each element for each officer. Other personal performance objectives for executive officers other than the Chief Executive Officer include deployment of Lean operating principles and overall leadership, including with respect to the Company s safety culture. For each category of the personal performance objectives, there was a range of potential payouts with the ultimate payout amount based upon the detailed evaluation by the Committee as to the achievement of the objectives. The Committee structured the 2018 Annual Incentive Plan in this manner so that the executives would know what their reward, if any, would be for achieving the financial objectives, while using the personal performance objectives to provide the Committee with the opportunity to assess the value of contributions or achievements within the context of the degree of difficulty and probability of achieving the objectives. The following are the specific personal performance objectives under the Annual Incentive Plan for each of our named executive officers, as well as their achievement of such objectives in 2018:

- *Mr. Dietrich:* The Compensation Committee reviewed Mr. Dietrich’s personal goals and objectives and assessed his performance versus the objectives in similar areas as the other executive officers, including measurable areas such as revenue growth, expense control, days of working capital reductions, and productivity improvements, as well as resource unit performance. In each case attainment of his objectives was based on the average attainment of such objectives by the Company's other executive officers. With respect to revenue growth, which increased 4.1%, Mr. Dietrich's target was an increase of 3.4%, resulting in a payout of 107.7% for this component of the award. Mr. Dietrich's target for controllable expenses was an increase in 2018 of 3.2% from 2017 levels, and the actual controllable expenses decreased in 2018 by 1.6%, which resulted in a payout of 170.6% for this component of the award. Working capital days increased 5.4 days from 2017 levels and his target was remain flat, which resulted in a payout of 25.1% for this component of the award. Productivity improved by 6.0% from 2017 levels and his target was an improvement of 3.5% which resulted in a payout of 154.2% for this component of the award. Mr. Dietrich was also evaluated on the basis of leadership in areas key to the Company's success, including development of the Company's leadership team and succession planning, improving the Company's safety culture, maintaining a high performance culture in advancing operational excellence, achieving financial targets by driving organic revenue and earnings growth, capital deployment, furthering external and investor relations, addressing specified risks such as cyber security, and assessment and execution of acquisition and divestiture opportunities. Collectively, Mr. Dietrich s performance against his personal performance objectives was 134.4% of target.

- *Mr. Garth:* Mr. Dietrich and the Compensation Committee reviewed Mr. Garth’s 2018 personal goals and objectives and assessed his performance versus the objectives in areas such as expense reduction, achievement of Hoshin Plans (Hoshin is a structured methodology for executing and achieving strategic goals and objectives) and overall leadership. Mr. Garth’s target for controllable expenses was an increase in 2018 of 6.4% from 2017 levels, and the actual controllable expenses for his resource unit increased in 2018 by only 0.9%, which resulted in a payout of 178.3% for this component of the award. Collectively, Mr. Garth’s performance against his personal performance objectives was 147.8% of target.
- *Mr. Monagle:* Mr. Dietrich and the Compensation Committee reviewed Mr. Monagle’s 2018 personal performance goals and objectives and assessed his performance versus the objectives in areas such as revenue growth, expense management, productivity, working capital days, and overall leadership. As Mr. Monagle had responsibility for the Paper PCC, Performance Minerals and Refractories Business Units, his goals and objectives represented a weighted average of goals and objectives for such businesses. Mr. Monagle was measured on revenue growth, which increased 4.1% in 2018 and his target was an increase of 3.6%, resulting in a payout of 106.7% for this component of the award. Controllable expenses for Mr. Monagle’s Business Units decreased in 2018 by 3.0% from 2017 levels, and his target was an increase of 1.2%, which resulted in a payout of 170.2% for this component of the award. Productivity improvements measured as Tons Produced per Manufacturing Hour improved by 7.2% from 2017 levels and his target was an improvement of 3.0% which resulted in a payout of 170.0% for this component of the award. Working capital days increased 3.7 days from 2017 levels and his target was a reduction of 1 day, which resulted in a payout of 0% for this component of the award. Collectively, Mr. Monagle’s performance against his personal objectives was 126.9% of target.
- *Mr. Meek:* Mr. Dietrich and the Compensation Committee reviewed Mr. Meek’s 2018 personal goals and objectives and assessed his performance versus the objectives in areas such as expense reduction, achievement of Hoshin Plans and overall leadership. For Mr. Meek, controllable expenses for his resource units decreased in 2018 by 9.4% from 2017 levels, and his target was a decrease of 1.4%, which resulted in a payout of 165.2% for this component of the award. Collectively, Mr. Meek’s performance against his personal objectives was 132.3% of target.
- *Mr. Hastings:* Mr. Dietrich and the Compensation Committee reviewed Mr. Hastings’ 2018 personal performance goals and objectives and assessed his performance. As Mr. Hastings had responsibility for the Corporate Development Resource Unit for part of the year and the Performance Materials Business Unit for part of the year, his goals and objectives represented a weighted average of goals and objectives for such units. For his Corporate Development responsibilities, he was reviewed in expense reduction, achievement of Hoshin Plans, completion of acquisition and divestiture opportunities, and overall leadership. Collectively, his performance against his personal objectives in these areas was 155.0%. For his Performance Materials responsibilities, Mr. Hastings was assessed on his performance versus the objectives in areas such as revenue growth, expense management, productivity, working capital days, and overall leadership. For revenue growth, the Business Unit increased 4.3% in 2018 and his target was an increase of 3.0%, resulting in a payout of 116.1% for this component of the award. Controllable expenses for Mr. Hastings’ Business Unit decreased in 2018 by 0.9% from 2017 levels, and his target was an increase of 2.9%, which resulted in a payout of 162.3% for this component of the award. Productivity improvements measured as Tons Produced per Manufacturing Hour improved by 4.6% from 2017 levels and his target was an improvement of 4.0% which resulted in a payout of 116.6% for this component of the award.

Working capital days increased 1.1 days from 2017 levels and his target was to remain flat from 2017, which resulted in a payout of 47.3% for this component of the award. Collectively, performance against his personal objectives for the Performance Materials Business Unit was 113.4% of target. Overall, Mr. Hastings' performance against his personal objectives was 130.8% of target.

Long-Term Incentives

Long-term incentives consist of stock options, DRSUs and Performance Units awarded under our long-term incentive compensation plan. Our compensation program uses equity-based awards (stock options and DRSUs), the ultimate value of which is contingent on our longer-term performance, in order to provide the named executive officers with a direct incentive to seek increased shareholder returns. Furthermore, as described below, we have established stock retention requirements for our executive officers that require the executives to retain a portion of the common stock of the Company that they receive

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pursuant to equity awards. We believe this further aligns the interests and actions of the Company s executive officers with the interests of the Company s shareholders. Performance Units, which pay cash based on the Company s performance over a three-year performance period, provide a cash incentive that is based on a longer-term performance evaluation than the 2018 Annual Incentive Plan.

Equity award opportunities and Performance Units awarded through our long-term incentive compensation plan provide the named executive officers with a direct incentive to seek increased shareholder returns and serve to further align the interests and actions of the Company s executive officers with the interests of the Company s shareholders. Compensation levels for each element are determined by the Committee independently and are not set based on the levels of other elements of compensation, except that the aggregate value of long-term incentive opportunities at target are generally set so that the sum of base salary, annual incentive at target and long-term incentives at target fall within the desired range of total direct remuneration. The Compensation Committee also takes into account other factors such as the responsibilities, performance, contributions and service of the executive, including compensation in relation to other employees and the executive s length of service in the particular position.

To determine the amounts of each type of long-term incentive provided to each executive officer, the Committee generally first determines the total long-term incentive award to be granted to an executive officer. Total long-term incentive value is determined as a multiple of an executive s base salary, based on market data supplied by the Committee s independent compensation consultant. The applicable percentage of total long-term incentive awards ranged from 100% to 350% of base salary for the named executive officers. The Committee then establishes the split among the three long-term incentive vehicles. The Committee decided in 2018 that the total long-term incentive value would be split as follows: 20% in the form of stock options, 40% in DRSUs and 40% in Performance Units. This split was consistent with prior years and reflected a desire to base awards on performance and the general marketplace trend of decreasing the emphasis on stock options. Of the equity components, stock options are valued using the Black-Scholes option valuation method and DRSUs are valued using the average of the high and the low of the stock price on the date of the grant. Performance Units are cash vehicles linked to financial goals set by the Committee. They are valued at $100 per unit assuming target-level performance, with higher and lower per-unit values for above- and below-target performance. These values are then translated into specific amounts for each individual executive officer.

All of our long-term compensation awards are strongly linked to performance. The Performance Units awarded through our long-term incentive compensation plan are linked to measurements of return on capital and stock performance.

Performance Unit Payout History

Grant Date	Three Year Performance Period	Actual Payout as a Percentage of Payout at Target Performance
2016	2016 – 2018	94%
2015	2015 – 2017	81%
2014	2014 – 2016	154%
2013	2013 – 2015	190%
2012	2012 – 2014	266%
2011	2011 – 2013	220%

2010	2010 – 2012	150%
2009	2009 – 2011	78%
2008	2008 – 2010	40%
2007	2007 – 2009	0%

Equity awards have a three-year vesting period. We strongly believe that our equity-based awards are performance-based, as vesting only occurs if the executive continues to be employed by the Company on the vesting date. We have a high-performance culture. This means that we expect our executives to perform to high levels. Our history is that executives that do not meet such performance standards leave our Company, as shown by the significant turnover of the positions in our executive management team in recent years. These officers have forfeited all of their unvested equity awards.

Stock Options. In 2018, the Committee awarded the named executive officers stock options with an exercise price that represents the fair market value of the underlying stock on the date of grant, measured as the average of the high and the low

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stock price on the grant date. These options generally have a ten-year term and vest in equal installments on each of the first three anniversaries from the date of grant. To encourage the ownership of Company stock among officers, upon exercise, at least 50% of after-tax value of appreciation must be held in Company stock for at least five years.

DRSUs. DRSUs generally vest in equal installments on each of the first three anniversaries from the date of grant. As with stock options, to encourage the ownership of Company stock among officers, at least 50% of the shares received upon vesting of the DRSUs (after tax) must be held by the executives for five years.

Performance Units. Performance Units awarded under our long-term incentive compensation plan pay cash based on the Company s performance over a three-year performance period. Performance Units granted in 2018 vest at the end of a three-year performance period (2018-2020), provided the grantee remains employed by the Company at such time. The value of each Performance Unit is dependent on the following three components:

- The Company's ROC performance over the three-year performance period (which distinguishes this measure from the one-year ROC target under our Annual Incentive Plan) as compared to target ROC, which is set to exceed the Company's weighted average cost of capital.
- The Company's stock performance as compared to our Peer Company Index, based on total shareholder return for the period from January 1, 2018 to December 31, 2020. For this purpose, we use our 2018 peer comparator group.
- The Company's stock performance as compared to the S&P MidCap 400 Index and the Russell 2000 Index, based on total shareholder return for the period from January 1, 2018 to December 31, 2020. For this purpose, the total shareholder return of the S&P MidCap 400 Index and the Russell 2000 Index are weighted equally.

The following sets out, for each of the three components, the minimum (threshold) performance below which such component will not have any payout, the target performance at which the component pays out at $100, and the maximum performance at which the component pays out at $300.

	Threshold	Target	Maximum
Return on Capital	7.0 %	9.3 %	11.1%
Company Stock Performance as a Percentage of S&P MidCap 400 Index and Russell 2000 Index	75 %	100 %	130%
Company Stock Performance as a Percentage of Peer Company Index	75 %	110 %	130%

Equal weighting is given to each of the three components. Thus, each of the three types of performance components contributes one-third of the final value of the Performance Unit. For each component, we calculate a payout level at the end of the performance period. The following tables set forth the payout levels for stated performance for each of the three components. Performance between the stated percentages is interpolated.

ROC Performance relative to target ROC (one-third of Unit Value)

ROC Performance		Component Achievement
<7.0% (minimum)	$	0
7.8%	$	75
9.3% (target)	$	100

10.1%	$	200
11.1% (maximum)	$	300

Company Stock Comparison to the S&P MidCap 400 Index and the Russell 2000 Index (one-third of Unit Value)

Company TSR Performance as a % of Target		**Component Achievement**
<75% (minimum)	$	0
75%	$	75
100% (target)	$	100
120%	$	200
130+% (maximum)	$	300

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Company Stock Comparison to the Peer Company Index (one-third of Unit Value)

Company TSR Performance as a % of Target		Component Achievement
<75% (minimum)	$	0
75%	$	40
100%	$	90
110% (target)	$	100
120%	$	200
130+% (maximum)	$	300

After each of the component payout amounts are determined, the three component payout amounts are averaged together to determine an overall Performance Units payout amount. For example, if for a Performance Unit, one component performance metric is achieved at the target level (yielding $100 for such component), one is achieved at the threshold level (yielding $75 for such component), and one is achieved at the maximum level (yielding $300 for such component), the performances together will result in a final payout value for the Performance Unit of $158.33 (the average of $100, $75, and $300). Performance Units have an overall target value of $100 if each of the three components are achieved at target performance. The Performance Unit value is paid out in cash at the end of the performance period.

In January 2019, the Committee reviewed the results of Performance Units granted in 2016, which had a performance period that ended December 31, 2018. The Company s performance during the performance period resulted in a payout on these Performance Units of $94.34 per unit. Payments to the named executive officers on such Performance Units were as follows: Mr. Dietrich, $475,474, Mr. Monagle, $478,021, Mr. Meek, $403,964, and Mr. Hastings $267,454.

Retirement Programs

Our retirement programs for senior executives provide an opportunity for each participating executive, through long service to the Company, to receive a pension or other forms of retirement benefits. With the exception of Mr. Garth and Mr. Hastings, our named executive officers participate in the Company s Retirement Plan and the Supplemental Retirement Plan which provide retirement benefits to employees and executives. These plans are described more fully in the narrative following the Pension Benefits table below.

Although our retirement programs provide valuable benefits that help us attract and retain executive talent, we rely more heavily on other elements of our compensation program in the recruitment process and for retention.

Severance Policies

Severance protection is provided to our senior executives in employment agreements and severance agreements. This protection is designed to be fair and competitive and to aid in attracting and retaining experienced executives. When recruited from another company, the executive generally will seek to be protected in the event he or she is terminated without cause or we take actions giving the executive good reason to terminate employment. We believe that the protection we provide—including the level of severance payments and post-termination benefits—is appropriate and within the range of competitive practice.

Severance protection following a change in control, while potentially costly, provides a number of important benefits to the Company. First, it permits an executive to evaluate a potential change in control while relatively free of concern for the executive s own situation or the need to seek employment elsewhere. Second, change in control transactions take time to unfold, and a stable management team can help to preserve the Company s operations either to enhance the value delivered to a buyer in the transaction or, if no transaction is consummated, to ensure that the Company s business will continue without undue disruption. Finally, we believe that the change in control protections in place encourage management to consider on an ongoing basis whether a strategic transaction might be advantageous to our shareholders, even one that would vest control of the Company in a third party. We do not provide for excise tax gross up payments to executive officers in connection with a change in control. In 2016, we revised our officers change-in-control arrangements to reduce the severance payable upon a change-in-control to three times the officer s base salary and target bonus, which we believe is in line with market practice. The Compensation Committee believes that the potential cost of executive change in control severance payments and benefits, as a percentage of the potential buyout price, would be well within the range of reasonable industry practice, and represents an appropriate cost relative to the benefits to the Company and its shareholders.

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Deferred Compensation

The Company maintains the Supplemental Savings Plan in order to allow employees to defer amounts that cannot be deferred under the qualified Savings and Investment Plan (the Company s 401(k) plan) due to Internal Revenue Code limits. Contributions under the Supplemental Savings Plan are limited to the percentage limits that the employee would otherwise have been able to contribute on a before-tax basis to the Savings and Investment Plan. Additionally, the program provides a second and separate election opportunity for the deferral of annual base salary and bonus for which these deferrals are credited with interest only. Amounts placed in the Supplemental Savings Plan remain with the Company until payout, rather than invested through a third party as with other defined contribution programs.

Perquisites

We provide only minimal perquisites, such as financial counseling, that have a sound benefit to the Company s business.

How We Make Compensation Decisions

Objectives of Our Compensation Program for Named Executive Officers

The Compensation Committee believes that the compensation program for executive officers should reward the achievement of the short-term and long-term objectives of the Company, and that compensation should be related to the value created for its shareholders. Furthermore, the program should reflect competitive opportunities and best practices in the marketplace.

The following objectives serve as guiding principles for the Compensation Committee:

- Provide a market-based, competitive total compensation opportunity that allows the Company to attract, retain, motivate and reward highly skilled executives;
- establish a strong pay-for-performance culture based on the achievement of key business objectives and reinforced by incentive-based pay; and
- strengthen the linkage between executive and shareholder interests through the usage of equity awards and executive stock ownership.

Decision-Making Responsibility

Governance of our compensation program is the responsibility of the Compensation Committee, which consists solely of independent (non-management) directors. The Compensation Committee works with management, in particular the Chief Executive Officer and the executive responsible for Human Resources, in making decisions regarding our compensation program. The Chief Executive Officer has the ability to call Compensation Committee meetings for this purpose.

The Compensation Committee retained Steven Hall & Partners as its independent compensation consultant through June 2018. In July 2018, the Compensation Committee terminated its relationship with Steven Hall & Partners and retained Frederic W. Cook & Co., Inc. (FW Cook), a nationally known compensation consulting firm, as its independent compensation consultant for purposes of executive compensation matters. FW Cook assists in gathering and analyzing market data, advising the Compensation Committee on compensation standards and trends, and assisting in the implementation of policies and programs. FW Cook works with the Chief Executive Officer and the executive responsible for Human Resources to provide such assistance to the Compensation Committee. FW Cook does not provide any other services to the Company. The Committee annually reviews the independence status of its advisors and determined that FW Cook has no conflicts of interest in its role as compensation consultant to the Committee. The Committee has sole authority to determine the compensation for and to terminate FW Cook's services.

Comparator Group Companies

We intend that the levels of compensation available to executive officers who successfully enhance corporate value be competitive with the compensation offered by publicly held companies so that we can successfully attract and retain the high-quality executive talent critical to the long-term success of the Company. Furthermore, we seek to encourage outstanding performance through the opportunity to earn substantially more than target levels of pay for superior performance. To understand the competitive market for pay, we analyze the compensation programs at a comparator group of companies in setting compensation terms for our program.

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The Company s primary business competitors are foreign companies, privately held firms or subsidiaries of publicly-traded companies. Accordingly, compensation data for most of our primary business competitors is not publicly available. Our 2017 comparator group, which was based on information and analysis provided by the Committee s compensation consultant, consisted of the following group of comparator companies. We used this group for reference in setting overall compensation for our executives for 2018.

Albermarle Corporation	Innophos Holdings, Inc.
Cabot Corporation	Koppers Holdings Inc.
Century Aluminum Company	Kraton Corp.
Compass Minerals International, Inc.	Kronos Worldwide, Inc.
Ferro Corporation	Olin Corporation
H.B. Fuller Company	Sensient Technologies Corp.
Harsco Corporation	

We conduct a comparator group review on an annual basis. In 2018, following a thorough review of the companies that were members of the 2017 comparator group as well as other potential comparators in the specialty chemical and materials industries, the Compensation Committee approved the addition of 7 companies and removed 2 companies (A. Schulman, Inc. which had been acquired by LyondellBasell, and Century Aluminum Company) from the group. The Committee determined that substitutions were warranted to ensure that the comparator group continues to reflect companies that are of comparable size (as measured by revenue, total assets, and market cap), scope of operations and complexity. We believe that these companies provide a broad measure of compensation in the market in which we compete for talent. The 2018 comparator group consisted of:

Albermarle Corporation	Kronos Worldwide, Inc.
Cabot Corporation	Martin Marietta Materials, Inc.
Compass Minerals International, Inc.	Olin Corporation
Ferro Corporation	Platform Specialty Products Corporation
H.B. Fuller Company	Sensient Technologies Corp.
Harsco Corporation	Tronox Limited
Innophos Holdings, Inc.	United States Lime & Minerals, Inc.
Innospec Inc.	Vulcan Materials Co.
Koppers Holdings Inc.	W.R. Grace & Co.
Kraton Corp.	

The 2018 comparator group was used for purposes of the Peer Company Index for our Performance Units in 2018, and will used for reference in setting overall compensation for our executives going forward.

We do not rely exclusively on comparator group data in setting the terms of our compensation program. Consideration also is given to major compensation surveys of companies in the chemical industry, as well as companies in general industry. Survey information helps to confirm the validity and provide broader context to the comparator group data, as well as provide data for positions where comparator data is not available from public filings with the SEC. This survey data is developed independently by FW Cook and provided to the Compensation Committee.

Setting Total Direct Remuneration

Total direct remuneration—consisting of salary, annual incentive awards and long-term incentive awards—provides the major portion of each named executive officer s remuneration. In setting each named executive officer s total direct remuneration opportunity, the Compensation Committee takes into account other factors such as the responsibilities, performance, contributions and service of the executive, including compensation in relation to other employees and the executive s length of service in the particular position. As a result, we do not set total direct remuneration or the component parts at levels to achieve a mathematically precise market position.

As discussed above, our program has provided substantial portions of total direct remuneration in the form of DRSUs and stock options to promote share ownership as a direct means of aligning the interests of executives with the long-term interests of shareholders. Our share retention requirements also encourage long-term shareholding. Cash compensation permits executives to meet living expenses and build wealth through diversified investments, and we therefore seek to provide balance in the mix of cash and non-cash compensation. The more senior the role, the greater the percentage of compensation provided in the form of at-risk long-term incentives.

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In evaluating the level of compensation for the named executive officers versus the marketplace, the Committee considered the elements of salary, annual incentive and long-term incentive compensation, both individually and collectively. These elements were benchmarked to compensation information of comparator companies provided by FW Cook. However, this compensation data was not utilized by the Committee to adjust any element of compensation, or total compensation generally, paid to any executive officer (including any of the named executive officers) to precisely equal benchmarked values. Rather, salary, bonus and equity-based compensation components, individually and in total, for each executive, were compared to the average value received by the executives in the comparator companies and such comparison served as general guidance to the Committee in setting compensation levels. In addition, the Committee reviewed the salary, annual incentive and long-term incentive compensation amounts received by each such executive in prior years when establishing compensation levels. In establishing the form and amount of compensation, the Committee attempts to provide compensation that is competitive with its comparator companies, but reasonable in light of the Company s performance in prior years.

Compensation levels for each element of direct remuneration are determined by the Committee independently and are not set based on the levels of other elements of compensation, except that the aggregate value of long-term incentive opportunities at target are generally set so that the sum of base salary, annual incentive at target and long-term incentives at target fall within the desired range of total direct remuneration. As noted above, in each case, the Compensation Committee also takes into account other factors such as the responsibilities, performance, contributions and service of the executive, including compensation in relation to other employees and the executive s length of service in the particular position.

Other Policies

The Compensation Committee reviews and takes into account all elements of executive compensation in setting policies and determining compensation amounts. In this process, the Committee reviews tally sheets and other reports and analyses of executive compensation including those prepared by FW Cook.

Other policies and practices that help promote our compensation objectives include the following:

Employment Agreements. We have employment agreements with all of the named executive officers. These agreements formalize the terms of the employment relationship and the Company s obligations to the executive during employment and in the event of termination. Additionally, these agreements clearly define the obligations of executives during and after employment with the Company. This includes compliance with restrictive terms that protect our business related to competitive activities, solicitation of our employees, customers and business partners, the disclosure of confidential information, and other actions that could be harmful to the Company post-employment. Employment agreements promote careful and complete documentation and understanding of employment terms, including strong protections for our business, and discourage frequent renegotiation of the terms of employment. Conversely, employment agreements can limit our ability to change certain employment and compensation terms. In some cases, including when an executive has been recruited to join us, executives have negotiated with us regarding the terms of their employment. The agreements embody the employment terms on which the Compensation Committee and the executives have reached agreement.

Equity Award Grant Practices. Most of our option and DRSU grants have occurred as part of our regular annual grant of equity awards at a regularly scheduled meeting of the Compensation Committee, typically in January. The Company considers interim grants in cases of new hires, promotions and other special situations. In particular, in

2018, the Compensation Committee performed an additional review of Mr. Dietrich s long-term compensation in light of the completion of his first year as Chief Executive Officer, which resulted in an additional award of long-term compensation in March 2018 intended to align Mr. Dietrich s equity awards with external benchmark data.

Clawback Policy. In 2012, we adopted a Policy for Recoupment of Incentive Compensation (a clawback policy). This allows the Company to recapture any compensation paid or awarded to an executive officer or other key employee if the Company is required to prepare an accounting restatement due to the material noncompliance of the Company with any financial reporting requirement, and the Board determines that the willful commission of an act of fraud or dishonesty by such person or recklessness in the performance of such person s duties contributed to the non-compliance and the compensation received by such person would have been materially lower if it had been based on the restated results.

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Officer Stock Ownership Guidelines. The following are the stock ownership guidelines effective for the Chief Executive Officer and other named executive officers. The guidelines require holdings of our stock with values at least equal to specified multiples of base salary, as follows:

- Chief Executive Officer—six times base salary (within five years of election)
- Chief Financial Officer and Group Presidents—four times base salary (within five years of election)
- Other Elected Officers—three times base salary (within five years of election)

As of March 15, 2019, Mr. Monagle and Mr. Meek were the only named executive officers in their positions for the five years required for the guidelines to take effect. Mr. Meek and Mr. Monagle were in compliance with the officer stock ownership guidelines.

Trading Controls and Hedging Transactions. Executive officers, including the named executive officers, are required to receive the permission of the Company s General Counsel prior to entering into any transactions in Company securities, including exercises of stock options. Generally, trading is permitted only during announced trading periods. The named executive officer bears full responsibility if he or she violates Company policy by permitting shares to be bought or sold without pre-approval or when trading is restricted. Executive officers are prohibited from entering into hedging transactions, short sales and similar derivative transactions, and from pledging shares of Company stock.

2019 Compensation Program for Named Executive Officers

Our compensation program for senior executives for 2019 will be structured in a manner similar to the 2018 program.

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REPORT OF THE COMPENSATION COMMITTEE

REPORT OF THE COMPENSATION COMMITTEE

The Compensation Committee, comprised entirely of independent directors, reviewed and discussed the above Compensation Discussion and Analysis with the Company s management. Based on the review and discussions, the Compensation Committee recommended to the Company s Board of Directors that the Compensation Discussion and Analysis be included in this Proxy Statement.

John J. Carmola, Chair
Joseph C. Breunig
Robert L. Clark
Alison A. Deans
Franklin L. Feder

COMPENSATION OF EXECUTIVE OFFICERS AND DIRECTORS

Summary Compensation Table—2018

The following table summarizes the compensation of the named executive officers for the fiscal year ended December 31, 2018. The named executive officers include our Chief Executive Officer, Chief Financial Officer, and three other most highly compensated executive officers who were serving as executive officers on December 31, 2018. For purposes of determining the most highly compensated officers, the amounts shown in column (h) were excluded.

Name and Principal Position (a)	Year (b)	Salary ($) (c)	Bonus ($) (d)	Stock Awards ($)(1) (e)	Option Awards ($)(2) (f)	Non-Equity Incentive Plan Compensation* ($)(3) (g)	Change in Pension Value and Non-qualified Deferred Compensation Earnings ($)(4) (h)	All Other Compensation ($)(5) (i)	Total ($) (j)
Douglas T. Dietrich Chief Executive Officer	2018	$ 898,077	—	$ 1,260,046	$ 733,843	$ 1,651,674	$ 185,557	$ 46,209	$ 4,775,406
	2017	$ 800,000	—	$ 979,994	$ 653,335	$ 1,349,616	$ 102,051	$ 42,171	$ 3,927,167
	2016	$ 527,289	$ 150,000	$ 503,984	$ 326,738	$ 1,175,964	$ 33,618	$ 88,637	$ 2,806,230
Matthew E. Garth Senior Vice President, Finance and Treasury, Chief Financial Officer	2018	$ 494,615	—	$ 399,976	$ 232,622	$ 460,600	—	$ 30,075	$ 1,617,888
	2017	$ 403,269	—	$ 365,001	$ 243,335	$ 427,100	—	$ 9,900	$ 1,448,605
	2016	—	—	—	—	—	—	—	—
D.J. Monagle, III Group President, Specialty Minerals and Refractories	2018	$ 533,739	—	$ 546,692	$ 317,929	$ 1,001,721	$ 108,913	$ 35,765	$ 2,544,759
	2017	$ 512,716	—	$ 524,328	$ 349,659	$ 841,160	$ 80,581	$ 34,023	$ 2,342,467
	2016	$ 490,952	—	$ 501,801	$ 328,516	$ 1,161,482	$ 27,843	$ 33,787	$ 2,544,381
Thomas J. Meek Senior Vice President,	2018	$ 531,739	—	$ 491,244	$ 285,684	$ 877,264	$ 75,912	$ 35,691	$ 2,297,534
	2017	$ 510,445	—	$ 449,502	$ 299,678	$ 790,211	$ 73,279	$ 34,715	$ 2,157,830
	2016	$ 486,150	$ 150,000	$ 428,218	$ 274,985	$ 1,063,638	$ 36,515	$ 90,415	$ 2,529,921

General Counsel, Human Resources, Secretary and Chief Compliance Officer									
Jonathan J. Hastings Group President, Performance Materials	2018	$ 504,662	—	$ 439,449	$ 256,408	$ 689,654	—	$ 34,694	$ 1,924,867
	2017	$ 481,521	—	$ 347,679	$ 231,824	$ 659,730	—	$ 33,672	$ 1,754,426
	2016	$ 449,433	—	$ 283,577	$ 183,826	$ 756,150	—	$ 32,254	$ 1,705,240

* Non-equity Incentive plan compensation for 2018 consists of the following:

Name	2018 Annual Incentive Bonus	2018 Long-term Incentive Payout	Total
D.T. Dietrich	$ 1,176,200	$ 475,474	$ 1,651,674
M.E. Garth	$ 460,600	—	$ 460,600
D.J. Monagle, III	$ 523,700	$ 478,021	$ 1,001,721
T.J. Meek	$ 473,300	$ 403,964	$ 877,264
J.J. Hastings	$ 422,200	$ 267,454	$ 689,654

(1) Represents the aggregate grant date fair value computed in accordance with FASB ASC Topic 718. The Company calculates the fair value of stock awards under FASB ASC Topic 718 by multiplying the number of shares by the average of the high and low price of the Company's common stock on the New York Stock Exchange on the grant date. See Note 5 to the Consolidated Financial Statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 for the assumptions made in determining FASB ASC Topic 718 values.

(2) Represents the aggregate grant date fair value computed in accordance with FASB ASC Topic 718. The Company calculates the fair value of option awards under FASB ASC Topic 718 using the Black-Scholes valuation model. See Note 5 to the Consolidated Financial Statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 for the assumptions made in determining FASB ASC Topic 718 values.

(3) Amounts shown for 2018 represent the sum of (i) 2018 Annual Incentive awards under the 2018 Annual Incentive Plan and (ii) the value of the Performance Units granted by the Company to the named executive officers for the performance period ending December 31, 2018, which vested on December 31, 2018, as detailed in the above note (*). The value of these Performance Units was $94.34 per unit.

Amounts shown for 2017 represent the sum of (i) 2017 Annual Incentive awards under the 2017 Annual Incentive Plan and (ii) the value of the Performance Units granted by the Company to the named executive officers for the performance period ending December 31, 2017, which vested on December 31, 2017. The value of these Performance Units was $81.17 per unit.

Amounts shown for 2016 represent the sum of (i) 2016 Annual Incentive awards under the 2016 Annual Incentive Plan and (ii) the value of the Performance Units granted by the Company to the named executive officers for the performance period ending December 31, 2016, which vested on December 31, 2016. The value of these Performance Units was $154.17 per unit.

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COMPENSATION OF EXECUTIVE OFFICERS AND DIRECTORS

A Performance Unit is worth $100 per unit at target performance; at maximum performance, $300 per unit. If performance does not meet minimum threshold levels, the Performance Unit will be worth $0. See Compensation Discussion and Analysis—What We Pay and Why: Elements of Our Compensation Program for Named Executive Officers—Long-term Incentives for more information.

(4) Amounts shown in column (h) are solely an estimate of the increase in actuarial present value during 2018 of the named executive officer's normal retirement age (defined as the earliest age at which the executive can receive a benefit unreduced for early retirement) accumulated benefit under the Company's Retirement Plan and the Supplemental Retirement Plan. Mr. Garth and Mr. Hastings do not participate in a pension plan. The amount attributable to each plan is shown in the table below:

	Change in Pension Value		
Name	**Retirement Plan**	**Supplemental Retirement Plan**	**Total**
D.T. Dietrich	$ 42,997	$ 142,560	$ 185,557
M.E. Garth	—	—	—
D.J. Monagle, III	$ 40,323	$ 68,590	$ 108,913
T.J. Meek	$ 22,993	$ 52,919	$ 75,912
J.J. Hastings	—	—	—

The change in pension value is calculated under the cash balance formula, which is described in more detail in the narrative following the Pension Benefits table below. The accumulated benefit under the cash balance formula equals the projected annuity benefit payable at normal retirement age, assuming that the executive remains in employment but receives no future pay credits. The projected annuity benefit is calculated by first projecting the end-of-year cash balance account to normal retirement age using annual interest credits of 3.70% for 2018 calculations and 2.56% for 2017 calculations. The projected cash balance is then converted to an annuity using the September 2018 rates (3.21% for 5 years, 4.26% for next 15 years, 4.55% thereafter) and the 2019 IRS prescribed mortality table for 2018 calculations, and September 2017 rates (1.96% for 5 years, 3.58% for next 15 years, 4.35% thereafter) and the 2018 IRS prescribed mortality table for 2017 calculations.

The present value of accumulated benefits is then calculated using the following discount rate and mortality assumptions:

Discount rate:	2018 year end:	4.02% for the qualified plan
		3.67% for the nonqualified plan
	2017 year end:	3.38% for the qualified plan
		2.96% for the nonqualified plan
	2016 year end:	3.83% for the qualified plan
		3.21% for the nonqualified plan
Mortality table:	2018 year end:	RP-2014 Mortality Table adjusted to 2006 with Generational Projection (Scale MP-2016) – post retirement only
	2017 year end:	RP-2014 Mortality Table adjusted to 2006 with Generational Projection (Scale MP-2015) – post retirement only
	2016 year end:	

RP-2014 Mortality Table adjusted to 2006 with Generational Projection (Scale MP-2015) – post retirement only

(5) All Other Compensation for 2018 consists of the following:

All Other Compensation—2018

Name	**Perquisites***	**401(k) Plan Match****	**Supplemental Savings Plan Match**	**Total**
D.T. Dietrich	$ 1,978	$ 11,000	$ 33,231	$ 46,209
M.E. Garth	$ 675	$ 11,000	$ 18,400	$ 30,075
D.J. Monagle, III	$ 5,000	$ 11,000	$ 19,765	$ 35,765
T.J. Meek	$ 5,000	$ 11,000	$ 19,691	$ 35,691
J.J. Hastings	$ 5,000	$ 11,000	$ 18,694	$ 34,694

* Consists solely of reimbursement for financial counseling up to $5,000.

** Consists of plan match under the Savings and Investment Plan.

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COMPENSATION OF EXECUTIVE OFFICERS AND DIRECTORS

Grants of Plan-Based Awards—2018

The following table provides information on the Annual Incentive Plan awards to each of the Company s named executive officers in 2018 and the Performance Units, DRSUs and stock options granted in 2018 to each of the Company s named executive officers under the Company s long-term incentive program. The estimated future payouts of non-equity incentive plan awards listed in the table below depend on performance criteria described in footnote 2 below. There can be no assurance that such payouts will ever be realized.

ame*	Grant Date	Performance Units (#)	Estimated Future Payouts Under Non-Equity Incentive Plan Awards Threshold ($)	Target ($)	Maximum ($)	All Other Stock Awards: Number of Shares of Stock or Units (#)[3]	All Other Option Awards: Number of Securities Underlying Options (#)[4]	Grant Date Closing Price	Exercise or Base Price of Option Awards ($/Sh)[5]	Grant Da Fair Val of Sto and Optio Awar ($)
T.	[1]		$ 225,000	$ 990,000	$ 1,980,000					
etrich	1/23/2018 [2]	11,025	$ 698,250	$ 1,102,500	$ 3,307,500					
	1/23/2018					14,436				$ 1,102,550
	1/23/2018						24,795	$ 76.40	$ 76.375	$ 641,159
	3/13/2018 [2]	1,575	$ 99,750	$ 157,500	$ 472,500					
	3/13/2018					2,137				$ 157,497
	3/13/2018						3,670	$ 73.05	$ 73.70	$ 92,684
.E.	[1]		$ 93,750	$ 375,000	$ 750,000					
arth	1/23/2018 [2]	4,000	$ 253,333	$ 400,000	$ 1,200,000					
	1/23/2018					5,237				$ 399,976
	1/23/2018						8,996	$ 76.40	$ 76.375	$ 232,622
J.	[1]		$ 100,500	$ 402,000	$ 804,000					
onagle,	1/23/2018 [2]	5,467	$ 346,243	$ 546,700	$ 1,640,000					
	1/23/2018					7,158				$ 546,692
	1/23/2018						12,295	$ 76.40	$ 76.375	$ 317,929
J. Meek	[1]		$ 100,125	$ 400,500	$ 801,000					
	1/23/2018 [2]	4,913	$ 311,157	$ 491,300	$ 1,473,900					
	1/23/2018					6,432				$ 491,244
	1/23/2018						11,048	$ 76.40	$ 76.375	$ 285,684
.	[1]		$ 94,125	$ 380,000	$ 760,000					
astings	1/23/2018 [2]	3,594	$ 227,620	$ 359,400	$ 1,078,200					
	1/23/2018					4,706				$ 359,421

1/23/2018						8,083	$ 76.40	$ 76.375	$ 209,01
6/1/2018 (2)	800	$ 50,667	$ 80,000	$ 240,000					
6/1/2018					1,076				$ 80,02
6/1/2018						1,847	$ 74.40	$ 74.375	$ 47,39

* The Company did not have any equity incentive plans during 2018, nor does it currently have such plans. Accordingly, the columns entitled Estimated Future Payouts Under Equity Incentive Plan Awards have been omitted from this table.

(1) Represents threshold, target and maximum payout levels under our 2018 Annual Incentive Plan. The actual amount of incentive awards earned by each named executive officer in 2018 is reported in the Summary Compensation Table under note (*). For a more detailed discussion of the 2018 Annual Incentive Plan, see Compensation Discussion and Analysis—What We Pay and Why: Elements of Our Compensation Program for Named Executive Officers—Annual Incentives.

(2) Represents the number of Performance Units granted to the named executive officers in 2018 under the Company's long-term incentive program and estimated threshold, target and maximum payouts. Performance Units vest at the end of a three-year performance period. For the 2018 – 2020 performance period, the value of each performance unit is based on three metrics: (i) the Company's ROC performance, (ii) the Company's stock performance comparison to the S&P MidCap 400 Index and the Russell 2000 Index, and (iii) the Company's stock performance comparison to a Peer Group Index. If performance does not meet minimum threshold levels, the Performance Unit will be worth $0. At threshold performance for each of the metrics, a Performance Unit is worth $63.33; at target performance, $100 per unit; at maximum performance, $300 per unit. The Performance Unit value for the 2018 – 2020 performance period will be paid out (subject to meeting the above performance criteria) in early 2021. For a more detailed discussion of Performance Units, see Compensation Discussion and Analysis—What We Pay and Why: Elements of Our Compensation Program for Named Executive Officers—Long-term Incentives.

(3) DRSUs vest in three equal annual installments beginning on the first anniversary of the grant date (subject to accelerated vesting in specified circumstances). DRSUs are not credited with dividends or dividend equivalents prior to vesting.

(4) Options vest in three equal annual installments beginning on the first anniversary of the grant date and expire on the tenth anniversary of the grant date (subject to accelerated vesting in specified circumstances).

(5) The exercise price of option awards is determined by the average of the high and low price of the Company's common stock on the grant date. Accordingly, the exercise price of option awards granted on January 23, 2018 is $76.375, on March 13, 2018 is $73.70, and on June 1, 2018 is $74.375. The closing price of the Company's common stock on January 23, 2018 was $76.40, on March 13, 2018 was $73.05, and on June 1, 2018 was $74.40.

(6) The grant date fair value of each DRSU is determined by the average of the high and low price of the Company's common stock on the grant date. Accordingly, the per share grant date fair value of each DRSU granted on January 23, 2018 is $76.375, on March 13, 2018 is $73.70, and on June 1, 2018 is $74.375. The grant date fair value, calculated in accordance with FASB ASC Topic 718 using the Black-Scholes valuation method, of each option granted on January 23, 2018 is $25.86, on March 13, 2018 is $25.25, and on June 1, 2018 is $25.66.

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Outstanding Equity Awards at Fiscal Year-End—2018

The following table shows the number of shares of the Company s common stock covered by exercisable and unexercisable options and unvested DRSUs held by the Company s named executive officers as of December 31, 2018.

	Option Awards[1]					Stock Awards			
Name	**Number of Securities Underlying Unexercised Options Exercisable (#)**	**Number of Securities Underlying Unexercised Options Unexercisable (#)**	**Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)**	**Option Exercise Price ($)**	**Option Expiration Date**	**Number of Shares or Units of Stock That Have Not Vested (#)**	**Market Value of Shares or Units of Stock That Have Not Vested ($)[2]**	**Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)**	**Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)**
D.T. Dietrich	14,894	—	N/A	$ 32.23	1/26/2021			N/A	N/A
	18,256	—		$ 32.03	1/25/2022				
	18,558	—		$ 41.29	1/22/2023				
	13,936	—		$ 57.97	1/22/2024				
	14,020	—		$ 60.19	1/20/2025				
	15,312	7,656		$ 38.29	1/19/2026				
	7,190	14,378		$ 78.03	1/17/2027				
	—	24,795		$ 76.38	1/23/2028				
	—	3,670		$ 73.70	3/13/2028				
						29,334 [3]	$ 1,506,008		
M.E. Garth	2,678	5,355		$ 78.03	1/17/2027				
	—	8,996		$ 76.38	1/23/2028				
						8,355[4]	$ 428,946		
D.J. Monagle,	19,100	—	N/A	$ 24.56	1/27/2020			N/A	N/A
	18,364	—		$ 32.23	1/26/2021				

III	20,478	—		$ 32.03	1/25/2022				
	19,673	—		$ 41.29	1/22/2023				
	14,598	—		$ 57.97	1/22/2024				
	1,180	—		$ 65.16	4/01/2024				
	14,229	—		$ 60.19	1/20/2025				
	15,396	7,697		$ 38.29	1/19/2026				
	3,848	7,695		$ 78.03	1/17/2027				
	—	12,295		$ 76.38	1/23/2028				
						16,007 (5)	$ 821,799		
T.J. Meek	10,000	—	N/A	$ 22.18	9/1/2019			N/A	N/A
	20,000	—		$ 24.56	1/27/2020				
	15,250	—		$ 32.23	1/26/2021				
	17,114	—		$ 32.03	1/25/2022				
	16,795	—		$ 41.29	1/22/2023				
	12,608	—		$ 57.97	1/22/2024				
	11,912	—		$ 60.19	1/20/2025				
	12,887	6,443		$ 38.29	1/19/2026				
	3,298	6,595		$ 78.03	1/17/2027				
	—	11,048		$ 76.38	1/23/2028				
						14,000 (6)	$ 718,760		
J.J. Hastings	5,190	—	N/A	$ 32.03	1/25/2022			N/A	N/A
	10,718	—		$ 41,29	1/22/2023				
	1,021	—		$ 42.42	3/20/2023				
	8,960	—		$ 57.97	1/22/2024				
	7,814	—		$ 60.19	1/20/2025				
	8,615	4,307		$ 38.29	1/19/2026				
	2,551	5,102		$ 78.03	1/17/2027				
	—	8,083		$ 76.38	1/23/2028				
	—	1,847		$ 74.38	6/1/2028				
						11,221 (7)	$ 576,086		

(1) Option awards vest in three equal annual installments beginning on the first anniversary of the grant date and expire on the tenth anniversary of the grant date, subject to accelerated vesting in specified circumstances. The grant date is ten years earlier than the expiration date reported in the Option Expiration column.

(2) The market value is calculated by multiplying the number of DRSUs by $51.34, the closing price of the Company’s common stock on December 31, 2018.

(3) Consists of unvested portions of the following: 4,388 DRSUs granted on January 19, 2016 and vesting in three equal annual installments beginning January 17, 2017; and 8,373 DRSUs granted on January 17, 2017 and vesting in three equal annual installments beginning January 17, 2018; and 14,436 DRSUs granted on January 23, 2018 and vesting in three equal annual installments beginning January 23, 2019 and 2,137 DRSUs granted on March 13, 2018 and vesting in three equal annual installments beginning March 13, 2019.

(4) Consists of unvested portions of the following: 3,118 DRSUs granted on January 17, 2017 and vesting in three equal annual installments beginning January 17, 2018; and 5,237 DRSUs granted on January 23, 2018 and vesting in three equal annual installments beginning January 23, 2019.

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(5) Consists of unvested portions of the following: 4,369 DRSUs granted on January 19, 2016 and vesting in three equal annual installments beginning January 19, 2017; and 4,480 DRSUs granted on January 17, 2017 and vesting in three equal annual installments beginning January 17, 2018; and 7,158 DRSUs granted on January 23, 2018 and vesting in three equal annual installments beginning January 23, 2019.

(6) Consists of unvested portions of the following: 3,728 DRSU's granted on January 19, 2016 and vesting in three equal annual installments beginning January 19, 2017; and 3,840 DRSUs granted on January 17, 2017 and vesting in three equal annual installments beginning January 17, 2018: and 6,432 DRSUs granted on January 23, 2018 and vesting in three equal annual installments beginning January 23, 2019.

(7) Consists of unvested portions of the following: 2,469 DRSUs granted on January 19, 2016 and vesting in three equal annual installments beginning January 17, 2017; and 2,970 DRSUs granted on January 17, 2017 and vesting in three equal annual installments beginning January 17, 2018; and 4,706 DRSUs granted on January 23, 2018 and vesting in three equal annual installments beginning January 23, 2019 and 1,076 DRSUs granted on June 1, 2018 and vesting in three equal annual installments beginning June 1, 2019.

Option Exercises and Stock Vested—2018

The table below discloses the number of shares acquired through option exercises and vesting of DRSUs and the value at the time of exercise and vesting by the named executive officers during 2018.

	Option Awards		**Stock Awards**	
Name	**Number of Shares Acquired on Exercise (#)**	**Value Realized on Exercise ($)**	**Number of Shares Acquired on Vesting (#)(1)**	**Value Realized on Vesting ($)**
D.T. Dietrich	13,740	695,794	16,217	1,234,551
M.E. Garth	—	—	1,560	117,702
D.J. Monagle, III	24,000	713,015	11,245	855,650
T.J. Meek	—	—	12,891	982,890
J.J. Hastings	—	—	10,697	816,319

(1) Certain of these shares were withheld for the payment of taxes.

Pension Benefits—2018

The table below quantifies the benefits expected to be paid to the named executive officers from the Company s defined benefit pension plans.

Name	**Plan Name**	**Present Value of Number of Years Credited Service (#)**	**Accumulated Benefit ($)(1)**	**Payments During Last Fiscal Year ($)**
D.T. Dietrich	Retirement Plan	11.4	$ 156,054	—
	Supplemental Retirement Plan	11.4	$ 390,553	—
M.E. Garth	Retirement Plan	—	—	—
	Supplemental Retirement Plan	—	—	—
D.J. Monagle, III	Retirement Plan	16.0	$ 215,316	—

	Supplemental Retirement Plan	16.0	$ 311,716	—
T.J. Meek	Retirement Plan	9.3	$ 134,549	—
	Supplemental Retirement Plan	9.3	$ 285,240	—
J.J. Hastings	Retirement Plan	—	—	—
	Supplemental Retirement Plan	—	—	—

(1) The present value of accumulated benefits under the Retirement Plan and Supplemental Retirement Plan is calculated using the following assumptions: (a) a discount rate of 4.02% for the Retirement Plan and 3.67% for the Nonfunded Supplemental Retirement Plan and (b) mortality rates from the RP-2014 Mortality Table adjusted to 2006 with Generational Projection (Scale MP-2017) at 2018 year end, post-retirement only.

The Retirement Plan is a tax qualified pension plan, which pays retirement benefits within the limits prescribed by the Code. The Nonfunded Supplemental Retirement Plan is an unfunded, non-tax qualified pension plan, which pays retirement benefits in excess of such Code limits.

For employees hired after January 1, 2002 and before January 1, 2010 (which includes Messrs. Dietrich, Monagle and Meek), accumulated benefits under the Retirement Plan and the Supplemental Retirement Plan are based upon a cash balance formula which credits such employees with annual pay credits equal to 5% of the employee s pensionable earnings for the year. An employee s cash balance account will also receive interest credits each year, based on a market rate of interest declared at the end of each year. The accumulated benefit under the cash balance formula equals the projected annuity benefit payable at normal retirement age (later of 65 and 3 years of service), assuming that the named executive officer remains in employment but receives no future pay credits. The projected annuity benefit is calculated by first projecting the December 31,

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2018 cash balance account to normal retirement age using annual interest credits of 3.70%. This projected cash balance is then converted to an annuity benefit using the September 2018 rates and the IRS prescribed mortality for 2019. The present value of accumulated benefit under the cash balance formula is based upon this annuity benefit, payable as a life annuity with no death benefit.

The Retirement Plan was closed to new entrants effective January 1, 2010. Accordingly, employees hired after January 1, 2010, including Mr. Garth and Mr. Hastings, are not entitled to participate in the Retirement Plan or Supplemental Retirement Plan.

Present Value of Accumulated Benefits may decrease year over year, due to the change in interest credit rate and other present value assumptions used for each year-end calculation.

Non-Qualified Deferred Compensation—2018

The following table shows contributions, earnings and account balances for the named executive officers in the Supplemental Savings Plan. The Supplemental Savings Plan is an unfunded, non-tax qualified plan which pays amounts in excess of the limits which the Code imposes on benefits under the Company s Savings and Investment Plan (the Company s 401(k) plan).

Name	Executive Contributions in Last FY ($)(1)	Registrant Contributions in Last FY ($)(2)	Aggregate Earnings in Last FY($)(3)	Aggregate Withdrawals/ Distributions ($)	Aggregate Balance at Last FYE ($)
D.T. Dietrich	41,539	33,231	(86,154)	0	417,011
M.E. Garth	—	—	—	—	—
D.J. Monagle, III	24,706	19,765	(59,047)	0	459,845
T.J. Meek	34,459	19,691	(132,433)	0	486,511
J.J. Hastings	32,715	18,694	(27,346)	0	265,797

(1) Named executive officers may elect to defer payment up to the greater of 6% or that percentage of regular earnings that the named executive officer would have been otherwise able to contribute on a before-tax basis to the Company's Savings and Investment Plan. At the named executive officer's election, such deferral will be credited to the named executive officer's account in the dollar amount of the deferred regular earnings, or as the number of units calculated by dividing the dollar amount of regular earnings deferred by the closing price of the Company's common stock on the last business day of the month in which the payment of such regular earnings would have been made.

(2) The amounts reported in this column represent matching contributions by the Company and were also reported as part of the named executive officers' All Other Compensation in the Summary Compensation Table and specifically listed in footnote 5 to such table. Under the Company's Savings and Investment Plan, the Company contributes $1 for every $1 contributed by the named executive officer of the first 3% of regular earnings and $1 for every $2 of the next 2% of the named executive officer's regular earnings. If the Code restrictions prevent the named executive officer from receiving matching contributions under the Company's Savings and Investment Plan, the named executive officer's account will be credited by the amounts that would have been otherwise contributed by the Company as matching contributions. Matching contributions are held in the general funds of the Company and are credited to the named executive officer's account in the form of units only, calculated as

described in note (1) above.

(3) The amounts reported in this column represent the aggregate earnings during 2018 of each named executive officer's account. Dollar amounts in the named executive officer's account are credited with the interest at a rate equal to the Fixed Income Fund of the Company's Savings and Investment Plan; units in a named executive officer's account are marked to market monthly. Whenever a cash dividend is paid on the Company's common stock, the number of units is increased as follows: the number of units in the named executive officer's account are multiplied by the cash dividend and divided by the closing price of the Company's common stock on the dividend record date. None of the named executive officers had any above market earnings reportable in column (h) of the Summary Compensation Table.

Potential Payments on Termination or Change in Control—2018

The following table summarizes the estimated payments to be made to each named executive officer serving as of December 31, 2018 derived from their employment agreements, change in control agreements (CIC agreements), the terms of their grants and awards and the Company s Stock Award and Incentive Plans (i) prior to a change in control and in connection with any termination of employment including voluntary resignation, for Cause termination, death, disability, retirement, termination without Cause or resignation for Good Reason , and (ii) upon a change in control without termination of employment and termination without Cause or resignation for Good Reason .

For the purpose of the quantitative disclosure in the following table, and in accordance with SEC regulations, we have assumed that the triggering event took place on the last business day of our most recently completed fiscal year, December 31, 2018, and that the price per share of our common stock is the closing market price as of that date, $51.34.

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Our employment agreements and CIC agreements with our named executive officers are described following the table.

	Upon Termination and Prior to a Change in Control			On or After a Change in Control	
Name	**Voluntary Resignation or For Cause Termination**	**Death, Disability or Retirement**	**Termination without Cause or Resignation for Good Reason**	**No Termination of Employment**	**Termination without Cause or Resignation for Good Reason**
D.T. Dietrich					
Severance Payment[1]	$ 0	$ 0	$ 3,780,000	$ 0	$5,670,000[2]
Benefits[3]	0	0	81,846	0	81,846
DRSU Vesting[4]	0	0	0	0	1,506,008
Stock Option Vesting[5]	0	0	0	0	99,949
Performance Unit Vesting[6]	0	0	0	0	2,744,000
M.E. Garth					
Severance Payment[1]	$ 0	$ 0	$ 1,312,500	$ 0	$2,625,000[2]
Benefits[3]	0	0	5,459	0	7,229
DRSU Vesting[4]	0	0	0	0	428,946
Stock Option Vesting[5]	0	0	0	0	0
Performance Unit Vesting[6]	0	0	0	0	765,000
D.J. Monagle, III					
Severance Payment[1]	$ 0	$ 0	$ 1,407,000	$ 0	$2,814,000[2]
Benefits[3]	0	0	68,362	0	91,216
DRSU Vesting[4]	0	0	0	0	821,799
Stock Option Vesting[5]	0	0	0	0	100,484
Performance Unit Vesting[6]	0	0	0	0	1,577,700
T.J. Meek					
Severance Payment[1]	$ 0	$ 0	$ 1,401,750	$ 0	$2,803,500[2]
Benefits[3]	0	0	48,863	0	65,181
DRSU Vesting[4]	0	0	0	0	718,760
Stock Option Vesting[5]	0	0	0	0	84,113
Performance Unit Vesting[6]	0	0	0	0	1,369,000
J.J. Hastings					
Severance Payment[1]	$ 0	$ 0	$ 1,338,750	$ 0	$2,677,500[2]
Benefits[3]	0	0	50,946	0	67,962

DRSU Vesting[4]	0	0	0	0	576,086
Stock Option Vesting[5]	0	0	0	0	56,228
Performance Unit Vesting[6]	0	0	0	0	1,115,300

(1) Represents cash payments potentially payable upon termination of employment. Amounts shown for termination without Cause or resignation for Good Reason prior to a change in control are based on a multiple of annual base salary plus bonus amounts that would have otherwise been payable to the officer, which for purposes of this table are assumed to be the amount of the officer's target bonus. This amount equals 2 times the sum of annual base salary and target bonus for Mr. Dietrich and 1.5 times the sum of annual base salary and target bonus for the other named executive officers. Amounts shown for termination without Cause or resignation for Good Reason on or after a change in control equal 3.0 times the sum base salary and target bonus for all named executive officers.

(2) Severance payment may be reduced if the full payment would result in a portion of the payment being subject to the excise tax under Section 4999 of the Code. In such event, the amount of the severance payment will be reduced by the minimum amount necessary such that no portion of the severance payment is subject to the excise tax.

(3) Amounts shown for termination without Cause or resignation for Good Reason prior to a change in control equal 1.5 times the present value of 24 months of life, disability, accident and health insurance coverage for Mr. Dietrich and 1.5 times the present value of 18 months of life, disability, accident and health insurance coverage for the other named executive officers. Amounts shown for termination without Cause or resignation for Good Reason on or after a change in control equal 1.5 times the present value of 24 months of life, disability, accident and health insurance coverage for all named executive officers.

(4) This amount represents the aggregate value of DRSUs which would become vested as a direct result of the termination event and/or change in control before the applicable stated vesting date solely as a direct result of the termination event or change in control before the stated vesting date. The stated vesting date is the date at which an award would have vested absent such termination event or change in control. This calculation of value does not discount the value of awards based on the portion of the vesting period elapsed at the date of the termination event or change in control. The value of DRSUs is based on a closing stock price of $51.34 on December 31, 2018.

(5) This amount represents the aggregate in-the-money value of stock options which would become vested as a direct result of the termination event and/or change in control before the applicable stated vesting date solely as a direct result of the termination event or change in control before the stated vesting date. The stated vesting date is the date at which an award would have vested absent such termination event or change in control. This calculation of value does not attribute any additional value to stock options based on their remaining term and does not discount the value of awards based on the portion of the vesting period elapsed at the date of the termination event or change in control. Represents the intrinsic value of stock options, based on a closing stock price of $51.34 on December 31, 2018.

(6) For termination due to death, disability or retirement, if a participant has been employed for two of the three years of the performance period, participant is eligible to receive a pro rata payout at the end of the performance period based on actual performance. Participants who have been employed for less

than two of the three years of the performance period forfeit outstanding units related to that performance cycle. The Plan gives the Compensation Committee discretion to accelerate the vesting of Performance Units upon a change in control. Under the officers CIC agreements, vesting of such Performance Units is required to be accelerated upon a change of control. Amounts represent vesting of Performance Units granted in 2017 and 2018 at the target of $100 per Unit.

Employment Agreements

The Company has employment agreements with each of our named executive officers. We entered into a revised employment agreement with Mr. Dietrich upon his election as Chief Executive Officer in December 2016, and in 2017 we entered into updated contracts with our other executive officers.

The term of each of these agreements was initially 18 months, or 24 months in the case of Mr. Dietrich, and, pursuant to the agreement, is extended on the first day of each month during the term for an additional month, unless either the employee or the employer gives the other written notice that the agreement should not be further extended or the employee reaches age 65. Under the employment agreements, each of the named executive officers is entitled to an annual base salary not less than their then-current annual base salary. Each may also receive salary increases and annual bonuses in amounts to be determined by the Board or the Compensation Committee. The agreements also entitle the named executive officers to participate in employee benefit plans and other fringe benefits that are generally available to our executive employees. Under each named executive officer s agreement, he has agreed to comply with certain customary provisions, including covenants not to disclose our confidential information at any time and not to compete with our business during the term of the agreement and, subject to our continued payment of amounts under the agreement, for two years thereafter. We may terminate the employment agreements before the end of the specified term of employment for Cause. Cause is defined in the agreements as (i) the failure to perform material obligations, following notice and a reasonable period of time to cure such failure and (ii) acts of felony, fraud or theft. Similarly, the named executive officer may resign for Good Reason. Good Reason is defined in the agreements as (i) the assignment of duties materially inconsistent with the executive s position, removal from that position, or a substantial diminution in the nature or status of executive s responsibilities, (ii) a material reduction of the executive s benefits or base salary, (iii) relocation of the executive office in which executive is located to a location more than fifty miles away and more than 100 miles from Company s principal corporate office, and (iv) the failure to obtain a reasonably satisfactory agreement from any successor company to assume and agree to perform the agreement. We note, with respect to part (iv) of Good Reason, that the employment agreement does not provide guaranteed severance on an acquisition of the Company—an executive only has Good Reason to terminate his employment if the acquiring company defaults on its obligations to the executive by failing to assume the obligations under his employment agreement.

Pursuant to the employment agreements, our named executive officers are entitled to severance payments upon termination of employment by the Company without Cause or by the named executive officer for Good Reason. Severance payments are equal to a multiple of base salary (the multiples are 2 times for Mr. Dietrich and 1.5 times for the other named executive officers) plus an amount equal to the bonus amount that would have otherwise been payable to him during the term of the agreement, but not more than average of such bonus amounts in the prior two years.

Change in Control Agreements

The Company also has Change in Control (CIC) agreements with certain of its executive officers, including each of the named executive officers. The CIC agreements continue through December 31 of each year, and are automatically extended in one-year increments unless we choose to terminate them. If a change in control occurs, the severance agreements are effective for a period of four years from the end of the then-existing term. These agreements are intended to provide for continuity of management in the event of a change in control of the Company.

Based on shareholder feedback we received in 2016, we revised the formula for determining the severance payment amount to which each executive officer is entitled under the CIC agreements. As revised, if, following a change in control, the executive officer is terminated by the Company for any reason, other than for disability, death, retirement or for Cause (as defined in the agreements), or if the executive officer terminates his or her employment for Good Reason (as defined in the agreements), then the executive is entitled to a severance payment of three times the sum of the executive s base salary and target bonus (in each case, as in effect immediately prior to the change in control or immediately prior to the date of termination, whichever is greater). The severance payment generally will be made in a lump sum. If it is determined that the severance payment plus all other payments or benefits which constitute parachute payments within the meaning of Section 280G of the Code would result in a portion of the severance payment being subject to the excise tax under Section 4999 of the Code, then the amount of the severance payment shall be reduced by the minimum amount necessary such that no portion of the payment will be subject to the excise tax. No excise tax gross-up is payable by the Company to the executive.

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Under the CIC agreements, a change in control includes any of the following events unless approved by the Board: (i) we are required to report a change in control in accordance with the Securities Exchange Act of 1934, as amended; (ii) any person acquires 30% of our voting securities; (iii) a majority of our directors are replaced during a two-year period, without such directors being approved by two-thirds of the continuing directors; or (iv) we consummate a merger, liquidation or sale of all or substantially all of our assets.

For a period of up to two years following a termination that entitles an executive officer to severance payments, the Company will provide life, disability, accident and health insurance coverage substantially similar to the benefits provided before termination, except to the extent such coverage would result in an excise tax being imposed under Section 4999 of the Code.

The CIC agreements also provide that upon the occurrence of certain stated events that constitute a potential change in control of the Company, the executive officer agrees not to voluntarily terminate his employment with the Company for a six-month period.

Stock Award and Incentive Plans

At the Company s 2015 Annual Meeting of Shareholders, our shareholders ratified the adoption of the Company s 2015 Stock Award and Incentive Plan. The 2015 Plan is substantially similar to the 2001 Stock Award and Incentive Plan. The Company established the 2015 Plan to increase the total number of shares of common stock reserved and available for issuance by 880,000 shares from the number of shares remaining under the 2001 Plan. With the ratification of the 2015 Plan by our shareholders, the 2001 Plan was discontinued as to new grants (however, all awards previously granted under the 2001 Plan remained unchanged).

The Plans provide for accelerated vesting of stock options and DRSUs upon a change in control of the Company. The Plans require a double trigger for accelerated vesting (i.e., both a change in control and termination). The Plans also give the Compensation Committee discretion to accelerate the vesting of Performance Units.

Grantor Trust

In order to secure the benefits accrued under certain programs such as the Supplemental Retirement Plan and the Supplemental Savings Plan, the Company has entered into an agreement establishing a grantor trust within the meaning of the Code. Under the Grantor Trust Agreement, we are required to make certain contributions of cash or other property to the trust upon the retirement of individuals who are beneficiaries of those plans, upon the occurrence of certain events defined as constituting a change in control, for compliance with Code Section 409A, and in certain other circumstances.

Pay Ratio

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, and SEC rules adopted thereunder, we are required by the SEC to calculate and disclose the total compensation paid to our median paid employee, as well as the ratio of the total compensation paid to the median employee as compared to the total compensation paid to Mr. Dietrich, our Chief Executive Officer. We identified the median employee using our total employee population on October 1, 2018. To determine the median employee from our employee population, we collected for each employee the compensation reflected in our payroll records during the 12-month period ending October 1, 2018, applying a local currency to U.S. dollar exchange rate to the compensation paid to our non-U.S. employees to facilitate comparison of all employees in U.S. dollars. For this purpose, all of our employees in all jurisdictions were included, approximately half of whom were located outside the United States, with the exception of Sivomatic, which we acquired in 2018 and has approximately 115 employees. After determining the median employee, we determined that person s total annual compensation on the same basis by which we determined our CEO s compensation.

Our CEO s total compensation for 2018 was $4,775,406, as reflected in the Summary Compensation Table. The median annual total compensation for all of our employees, excluding our CEO, was $55,352 for 2018. As a result, our CEO s total compensation for 2018 was approximately 86 times that of the median annual total compensation for all of our employees.

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COMPENSATION OF EXECUTIVE OFFICERS AND DIRECTORS

Director Compensation—2018

The table below summarizes the annual compensation for the Company s directors during 2018. Each compensation element is discussed in the text following the table.

Name	Fees Earned or Paid in Cash ($)		Stock Awards ($)(1)	Option Awards ($)(2)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Non-qualified Deferred Compensation Earnings	All Other Compensation ($)(3)	Total ($)
Joseph C. Breunig	$ 87,500		$ 100,000	N/A	N/A	N/A	$ 1,023	$ 188,523
John J. Carmola	$ 97,500	(4)	$ 100,000	N/A	N/A	N/A	$ 1,683	$ 199,183
Robert L. Clark	$ 95,000	(4)	$ 100,000	N/A	N/A	N/A	$ 3,151	$ 198,151
Douglas T. Dietrich(5)	—		—	N/A	N/A	N/A	—	—
Duane R. Dunham	$ 200,000		$ 100,000	N/A	N/A	N/A	$ 5,463	$ 305,463
Franklin F. Feder	$ 90,000	(4)	$ 100,000	N/A	N/A	N/A	$ 329	$ 190,329
Carolyn K. Pittman	$ 90,000	(4)	$ 100,000	N/A	N/A	N/A	$ 441	$ 190,441
Marc E. Robinson	$ 100,000		$ 100,000	N/A	N/A	N/A	$ 2,056	$ 202,056
Donald C. Winter	$ 90,000	(4)	$ 100,000	N/A	N/A	N/A	$ 2,499	$ 192,499

(1) Amounts shown represent the aggregate grant date fair value computed in accordance with FASB ASC Topic 718 of phantom stock units awarded to each director pursuant to the Nonfunded Deferred Compensation and Unit Award Plan for Non-Employee Directors calculated by multiplying the number of units by the closing price of our common stock on the grant date. Each Non-Employee Director was granted 1,381.215 phantom stock units on May 16, 2018, on which date the closing price of our common stock was $72.40 per share. Such phantom stock units were non-forfeitable upon grant.

The following table lists the total number of phantom stock units held by each non-employee director as of December 31, 2018. The units are payable in cash upon the director s termination of service on the Board. (See Nonfunded Deferred Compensation and Unit Award Plan for Non-Employee Directors below.)

J.C. Breunig	5,472
J.J. Carmola	8,910
R.L. Clark	16,186

D.R. Dunham	27,719
F.L. Feder	2,287
C.K. Pittman	1,813
M.E. Robinson	10,646
D.C. Winter	13,355

(2) The Company does not currently compensate its directors with stock options.

(3) All Other Compensation consists of the value of dividends earned on phantom stock units, in the amount of $0.05 per unit awarded quarterly and calculated by multiplying the number of units held by the director on the dividend record date.

(4) During 2018, Dr. Winter elected to defer his fees, and Mr. Carmola, Dr. Clark, Mr. Feder, and Ms. Pittman elected to partially defer their fees, in units which have the economic value of one share of the Company's stock as permitted under the Nonfunded Deferred Compensation and Unit Award Plan for Non-Employee Directors.

(5) Mr. Dietrich was elected Chief Executive Officer of the Company and a Director in December 2016. Mr. Dietrich is not compensated as a director.

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Nonfunded Deferred Compensation and Unit Award Plan for Non-Employee Directors

Under the Nonfunded Deferred Compensation and Unit Award Plan for Non-Employee Directors, directors who are not employees of the Company have the right to defer their fees. Through 2007, at each director s election, his or her deferred fees were credited to his or her account either as dollars or as units which have the economic value of one share of the Company s stock. Starting in 2008, deferred fees are credited as units. Dollar balances in a director s account bear interest at a rate of return equal to the rate of return for the Fixed Income Fund in the Company s Savings and Investment Plan. If a director s deferred fees are credited to his or her account as units, the number of units credited is calculated by dividing the amount of the deferred fees by the closing price of our common stock on the date such fees accrue.

During 2018, each of the non-employee directors received an annual retainer fee of $172,500, comprised of $72,500 paid in cash and $100,000 in units, for serving as a director. In addition, the following Committee retainer fees were paid: $20,000 for the Audit Committee Chair and $10,000 for Audit Committee members; $15,000 for the Compensation Committee Chair and $7,500 for Compensation Committee members; and $15,000 for the Corporate Governance and Nominating Committee Chair and $7,500 for Corporate Governance and Nominating Committee members. The non-executive Chairman of the Board also received a cash retainer of $127,500 for serving in such role.

* * *

By Order of the Board of Directors,

Thomas J. Meek
Senior Vice President, General Counsel,
Human Resources, Secretary and
Chief Compliance Officer

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APPENDIX A

APPENDIX A

Additional Information Regarding Non-GAAP Financial Measures (unaudited)

The information set forth in the Proxy Summary and the Compensation Discussion and Analysis present financial measures of the Company that exclude certain special items, and are therefore not in accordance with GAAP. The following is a presentation of the Company s non-GAAP net income and operating income, excluding special items for the years ended December 31, 2018 and December 31, 2017 and a reconciliation to GAAP net income and operating income, respectively, for such periods. The Company s management believes these non-GAAP measures provide meaningful supplemental information regarding its performance as inclusion of such special items are not indicative of the ongoing operating results and thereby affect the comparability of results between periods. The Company feels inclusion of these non-GAAP measures also provides consistency in its financial reporting and facilitates investors understanding of historic operating trends.

(millions of dollars, except per share data)	Year Ended	
	Dec. 31, 2018	Dec. 31, 2017
Net income attributable to MTI	$169.0	$195.1
Special items:		
Acquisition related transaction costs	1.7	3.4
Restructuring and other charges	2.5	15.0
Debt modification costs and fees	—	3.9
Write-off of receivables for Malaysia bankruptcy	—	2.1
Non-cash inventory step-up charge	0.5	—
Non-cash pension settlement charge	4.4	—
Related tax effects on special items	(2.1)	(8.9)
Effect of US tax law change	(3.7)	(47.3)
Net income attributable to MTI, excluding special items	$172.3	$163.3
Diluted earnings per share, excluding special items	$4.84	$4.59
Segment Operating Income Data		
Performance Materials Segment	$116.8	$119.7
Specialty Minerals Segment	95.4	88.9
Refractories Segment	45.4	39.8
Energy Services Segment	4.5	6.1
Unallocated Corporate Expenses	(4.5)	(6.7)
Acquisition related transaction costs	(1.7)	(3.4)
Consolidated	$255.9	$244.4
Special Items		
Performance Materials Segment	$0.5	$—
Specialty Minerals Segment	0.7	12.3

Energy Services Segment	1.8	0.7
Unallocated Corporate Expenses	—	4.1
Acquisition related transaction costs	1.7	3.4
Consolidated	$4.7	$20.5
Segment Operating Income, Excluding Special Items		
Performance Materials Segment	$117.3	$119.7
Specialty Minerals Segment	96.1	101.2
Refractories Segment	45.4	39.8
Energy Services Segment	6.3	6.8
Unallocated Corporate Expenses	(4.5)	(2.6)
Consolidated	$260.6	$264.9
% of Sales	14.4%	15.8%

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