

AMAG PHARMACEUTICALS INC.

Form DEF 14A

April 15, 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 ☐

Check the appropriate box:

☐ Preliminary Proxy Statement

☐ Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

☒ Definitive Proxy Statement

☐ Definitive Additional Materials

☐ Soliciting Material under §240.14a-12

AMAG PHARMACEUTICALS, 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:

(5) Total fee paid:

☐ Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

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

(3) Filing Party:

(4) Date Filed:

AMAG PHARMACEUTICALS, INC.

1100 Winter Street

Waltham, Massachusetts 02451

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On May 16, 2019

The 2019 Annual Meeting of Stockholders of AMAG Pharmaceuticals, Inc. (the “Annual Meeting”) will be held at the offices of AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451 on Thursday, May 16, 2019, at 9:00 a.m., local time, to consider and act upon the following matters:

- (1) To elect the nine nominees nominated by our Board of Directors named herein to the Board of Directors to serve until the next annual meeting of stockholders and until their successors have been elected and qualified;
- (2) To approve the AMAG Pharmaceuticals, Inc. 2019 Equity Incentive Plan;
- (3) To approve, on an advisory basis, the compensation of our named executive officers, as disclosed in this proxy statement;
- (4) To ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2019; and
- (5) To transact such other business as may properly come before the Annual Meeting or any adjournments or postponements thereof.

Proposal 1 relates solely to the election of nine directors nominated by the Board of Directors and does not include any other matters relating to the election of directors, including without limitation, the election of directors nominated by any of our stockholders.

Only stockholders of record at the close of business on March 29, 2019, the record date for the Annual Meeting, are entitled to notice of, and will be entitled to vote at, the Annual Meeting or any adjournments or postponements thereof.

All stockholders are cordially invited to attend the Annual Meeting in person. To assure your representation at the Annual Meeting, we urge you to vote via the Internet at www.proxyvote.com or by telephone by following the instructions on the enclosed proxy card, or by signing, voting and returning your proxy card to Broadridge Financial Solutions, 51 Mercedes Way, Edgewood, New York 11717.

By Order of the Board of Directors,

Joseph D. Vittiglio

Secretary

Waltham, Massachusetts

April 12, 2019

Whether or not you expect to attend the Annual Meeting, please promptly complete your proxy by Internet, telephone or mail as indicated above in order to assure representation of your shares. If completing a proxy by mail, no postage need be affixed if the proxy is mailed in the United States. Do not send any certificates with your proxy. Even if you have voted by proxy, you may still vote in person if you attend the Annual Meeting. Please note, however, that if your shares are held of record by a broker, bank, custodian or other nominee and you wish to vote at the Annual Meeting, you must obtain a proxy issued in your name from that record holder. Please refer to the enclosed form for instructions.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting to be Held on May 16, 2019 at 9:00 a.m. at the offices of AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451: This Proxy Statement and Notice, the Proxy Card, and AMAG's 2018 Annual Report to Stockholders and any other proxy materials are available free of charge at www.amagpharma.com under the heading "Investors."

AMAG PHARMACEUTICALS, INC.

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AMAG PHARMACEUTICALS, INC.

1100 Winter Street

Waltham, Massachusetts 02451

PROXY STATEMENT

FOR THE ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD ON MAY 16, 2019

QUESTIONS AND ANSWERS ABOUT THIS PROXY MATERIAL AND VOTING

The Annual Meeting

Our Board of Directors (the “Board”) is soliciting your proxy to vote at the 2019 Annual Meeting of Stockholders of AMAG Pharmaceuticals, Inc. (the “Annual Meeting”) to be held at the offices of AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451 on Thursday, May 16, 2019 at 9:00 a.m., local time, and at any adjournments or postponements of the Annual Meeting. Directions to the meeting location are available at the website of AMAG Pharmaceuticals, Inc. at www.amagpharma.com/about-us/contact-locations. This Proxy Statement explains the agenda, voting information and procedures for the Annual Meeting. Please read it carefully. This Proxy Statement and the accompanying proxy card were first mailed to our stockholders on or about April 15, 2019.

At the Annual Meeting, the following proposals will be subject to a vote of our stockholders: (1) to elect the following nine nominees, nominated by our Board, to serve as directors, each to hold office until the next annual meeting and until his or her successor is elected and qualified, or until his or her earlier resignation or removal: William K. Heiden, Barbara Deptula, John A. Fallon, M.D., Kathrine O’Brien, Robert J. Perez, Anne M. Phillips, M.D., FRCPC, Gino Santini, Davey S. Scoon and James R. Sulat; (2) to approve the AMAG Pharmaceuticals, Inc. 2019 Equity Incentive Plan (the “2019 Equity Incentive Plan”); (3) an advisory vote on the compensation of our named executive officers; and (4) to ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2019.

In this Proxy Statement, references to “Company,” “AMAG,” “we,” “us,” or “our” mean AMAG Pharmaceuticals, Inc. Any reference in this Proxy Statement to information found on our website, www.amagpharma.com, is for information purposes only and does not incorporate such information by reference into this Proxy Statement.

Who Is Entitled To Attend And Vote At The Annual Meeting?

Only stockholders of record at the close of business on March 29, 2019, the record date (the “Record Date”) for the Annual Meeting, are entitled to attend and vote at the Annual Meeting. On the Record Date, there were 33,746,828 shares of common stock outstanding and entitled to vote.

If on the Record Date your shares were registered directly in your name with our transfer agent/registrar, American Stock Transfer & Trust Company, then you are a stockholder of record. As a stockholder of record, you may vote in person at the Annual Meeting or by proxy as described below.

If on the Record Date your shares were held through a broker, bank, custodian or other nominee (each, a “Nominee”), then you are the beneficial owner of shares held in “street name” and these proxy materials are being forwarded to you by that Nominee. Only your Nominee can vote your shares, but you have the right to give specific instructions to your Nominee regarding how to vote your shares at the Annual Meeting. Please follow the instructions for voting by proxy provided by your Nominee. You are also invited to attend the Annual Meeting.

How Many Votes Do I Have?

Each stockholder is entitled to one vote for each share of our common stock held by such stockholder on the Record Date.

How Do I Vote?

If you are a stockholder of record, you may vote in person at the Annual Meeting or by proxy by following the instructions on the enclosed proxy card. Whether or not you plan to attend the Annual Meeting, we urge you to vote by telephone or Internet as instructed in the enclosed proxy card, or by completing, signing and dating the enclosed proxy card and returning it in the envelope provided. No postage is required if your proxy card is mailed in the United States. You may still attend the Annual Meeting and vote in person even if you have already voted by proxy. If you

plan to attend the Annual Meeting and vote in person, we will give you a ballot or a new proxy card when you arrive. Positive identification will be required to vote your shares in person.

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If you are a beneficial owner of shares registered in the name of your Nominee, you should have received a proxy card and voting instructions with these proxy materials from that organization. Simply follow the instructions for voting provided by your Nominee to ensure that your vote is counted. You may still attend the Annual Meeting and vote in person even if you have already voted by proxy. However, if your shares are held in the name of your Nominee, to attend the meeting you must bring an account statement or letter from your Nominee indicating that you were the beneficial owner of the shares on the Record Date for voting at the Annual Meeting. To vote your shares in person, you must obtain a legal proxy from your Nominee and provide it along with positive identification.

The persons named as attorneys-in-fact in the enclosed proxy card, William K. Heiden, Edward Myles and Joseph D. Vittiglio, were selected by the Board and are officers of AMAG. All properly executed proxies submitted in time to be counted at the Annual Meeting will be voted by such persons at the Annual Meeting. Where a choice has been specified in such proxy with respect to the foregoing matters, the shares represented by the proxy will be voted in accordance with the specifications. If no such specifications are indicated, such proxies will be voted FOR each of the director nominees identified in Proposal 1, FOR Proposal 2 (the approval of the 2019 Equity Incentive Plan), FOR Proposal 3 (the advisory vote on the compensation of our named executive officers) and FOR Proposal 4 (the ratification of the appointment of PricewaterhouseCoopers LLP).

If any other matter should be presented at the Annual Meeting upon which a vote properly may be taken, shares represented by proxy will be voted in accordance with the judgment of the persons named in such proxy. At present, the Board knows of no other matters to be presented at the Annual Meeting.

How Many Votes Are Required To Approve Each Proposal?

For Proposal 1, the election of nine directors, each nominee shall be elected as a director if the votes cast for such nominee's election exceed the votes cast against such nominee's election (i.e., a majority of the votes cast). Our Corporate Governance Guidelines provide that if an incumbent director is not elected by a majority of votes cast, the Governance and Risk Committee shall promptly consider his or her resignation, and make a recommendation to the Board as to whether to accept or reject the resignation, or whether other action should be taken. The Board will act on the Governance and Risk Committee's recommendation within 30 days following certification of the stockholder vote.

For each of Proposal 2 (the approval of the 2019 Equity Incentive Plan), Proposal 3 (the advisory vote on the compensation of our named executive officers), and Proposal 4 (the ratification of the appointment of PricewaterhouseCoopers LLP), the vote of the holders of at least a majority of shares of common stock present or represented and voting on the matter at the Annual Meeting is required for approval (i.e., a majority of the votes cast).

Proposal 4 is considered a routine matter and Nominees therefore have discretionary voting power as to Proposal 4. For non-routine matters, broker non-votes (discussed below) are not considered to have been voted "For" or "Against" a particular proposal and therefore have no effect on Proposals 1, 2, or 3 (there will not be any broker non-votes with respect to Proposal 4). Similarly, abstentions are not counted as voting on a matter and thus will have no effect on any of the Proposals.

When a quorum is present at any meeting of stockholders, the holders of a majority of the stock present or represented and voting on a matter shall decide any matter to be voted upon by the stockholders at such meeting, except when a different vote is required by express provision of law, our certificate of incorporation or our by-laws. At present, the Board knows of no other matters to be presented for stockholder action at the Annual Meeting.

What Does It Mean If I Receive More Than One Proxy Card?

If you receive more than one proxy card, your shares may be registered in more than one name or are registered in different accounts. Please complete, sign, date, and return all proxy cards or vote by Internet or telephone as instructed on such proxy cards to be sure that all of your shares are voted.

Can I Change My Vote After I Deliver My Proxy?

Yes. You may change your vote at any time before the final vote at the Annual Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of four ways:

- Duly completing a later-dated proxy relating to the same shares and delivering it before the taking of the vote at the Annual Meeting.

Properly casting a new vote via the Internet or by telephone at any time before the closure of the Internet or telephone voting facilities.

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Delivering written notice to us before the taking of the vote at the Annual Meeting that you are revoking your proxy. Such notice should be sent to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Secretary.

• Attending the Annual Meeting and voting in person. Simply attending the meeting will not, in itself, revoke your proxy.

If you wish to revoke a delivered proxy and your shares are held by a Nominee, you should follow the revocation instructions provided by that Nominee.

What Are “Broker Non-Votes” And What Discretion Does My Broker Have To Vote My Shares Held In “Street Name”?

Generally, if shares are held in street name, the beneficial owner of the shares is entitled to give voting instructions to the Nominee holding the shares. Under national securities exchange rules, if the beneficial owner does not provide voting instructions, the Nominee can still vote the shares with respect to matters that are considered to be “routine,” but not with respect to “non-routine” matters. A broker non-vote occurs when a Nominee holding the shares for a beneficial owner votes on one proposal but does not vote on another proposal because, with respect to such other proposal, the Nominee does not have discretionary voting power and has not received instructions from the beneficial owner as to how to vote such shares.

Proposal 4, the ratification of our appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2019, is the only routine matter included in this Proxy Statement. Pursuant to applicable stock exchange rules, (a) the election of directors, (b) the approval of the 2019 Equity Incentive Plan, and (c) the advisory vote on compensation paid to our named executive officers, are considered non-routine matters. For non-routine matters, brokers do not have authority, discretionary or otherwise, to vote your shares unless they receive proper instructions to do so from you in a timely manner. If you hold your shares in street name, we strongly encourage you to submit your proxy by following the instructions provided by your Nominee and exercise your right to vote as a stockholder as promptly as possible.

What Constitutes A Quorum At The Annual Meeting?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if the holders of at least a majority of the shares of common stock issued and outstanding and entitled to vote on the Record Date are present at the Annual Meeting, either in person or represented by proxy. On the Record Date, there were 33,746,828 shares of our common stock outstanding and entitled to vote.

Abstentions and broker non-votes are counted as present or represented for purposes of determining the presence or absence of a quorum for the Annual Meeting. If there is no quorum, the chairman of the meeting or the holders of a majority of shares present at the Annual Meeting, present in person or represented by proxy, may adjourn the meeting to another date.

What Materials Should I Be Receiving In Connection With The Annual Meeting?

Our Annual Report, including audited financial statements for the year ended December 31, 2018, is being mailed to you along with this Proxy Statement and Notice. This Proxy Statement and the accompanying Notice and proxy card were first mailed to our stockholders on or about April 15, 2019.

This Proxy Statement and Notice, the Proxy Card, and AMAG’s 2018 Annual Report to Stockholders and any other proxy materials are also available free of charge at www.amagpharma.com under the heading “Investors.”

If you share an address with any of our other stockholders, your household might receive only one copy of the Notice and Proxy Statement and Annual Report. To request individual copies of any of these materials for each stockholder in your household, please contact our Investor Relations Department by telephone at (617) 498-3300 or by post at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Investor Relations. We will deliver copies of the Notice and Proxy Statement and/or Annual Report promptly following your telephonic or mailed request. You may also contact Broadridge Financial Solutions, Inc. (“Broadridge”) or your bank, broker or other custodian to request individual copies of any of these materials for each stockholder in your household. To ask that only one copy of any of these materials be mailed to your household, please contact your broker. For additional details on this practice (referred to as “householding”) please see the discussion below under “Delivery of Documents to Stockholders Sharing an Address.”

How Are We Soliciting Proxies And Tabulating Votes?

We will bear all costs of solicitation of proxies. In addition to these proxy materials, our directors, officers and employees, without additional remuneration, may also solicit proxies through telephone, e-mail and in-person conversations. We will also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

Votes will be tabulated by Broadridge.

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How Can I Find Out The Results Of The Voting At The Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the Annual Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an amended Form 8-K to publish the final results.

When Are Stockholder Proposals And Director Nominations Due For Next Year's Annual Meeting?

To be considered for inclusion in next year's proxy materials, stockholder proposals (other than director nominations, which can only be submitted as described below) must be submitted in writing to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Secretary and must be received by us no later than December 14, 2019. Proposals must satisfy the requirements and procedures set forth in Rule 14a-8 under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

If you wish to nominate a director or submit a proposal for consideration at our 2020 annual meeting of stockholders, you must submit such nomination or proposal in writing to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Secretary. Such nomination or proposal must be received by us no earlier than January 17, 2020 and no later than February 16, 2020 and must satisfy the requirements described in our by-laws. For additional details, please see the discussion below under "Stockholder Proposals."

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors, executive officers and holders of more than 10% of our common stock, referred to herein as "Reporting Persons," to file with the Securities and Exchange Commission (the "SEC"), initial reports of ownership and reports of changes in ownership of our common stock. Such persons are required by SEC regulations to furnish us with copies of all such filings. Based on our review of the copies of such filings received by us with respect to the year ended December 31, 2018, and written representations from our directors and executive officers who served in such capacity during the year ended December 31, 2018, we believe that all Reporting Persons complied with all Section 16(a) filing requirements for the year ended December 31, 2018 except that Joseph Vittiglio did not timely report the withholding of shares for payment of taxes upon the vesting of shares under a restricted stock unit grant; however, the transaction was correctly reported on a Form 4 that was subsequently filed.

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SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Unless otherwise noted, the following table sets forth information regarding the beneficial ownership of our common stock as of March 29, 2019 by the following persons:

Each person known by us to beneficially own more than 5% of our common stock;

Each of our directors and nominees for director;

Each of our named executive officers listed in the “Summary Compensation Table” included in this Proxy Statement; and

All of our current directors and executive officers as a group.

“Beneficial ownership” is determined in accordance with the rules of the SEC and includes voting and investment power with respect to those shares. Pursuant to the rules of the SEC, the number of shares of common stock deemed outstanding includes shares issuable upon settlement of restricted stock units (“RSUs”) and performance-based RSUs (“PSUs”) held by the respective person or group that will vest or which may be settled within 60 days of March 29, 2019 and pursuant to options held by the respective person or group that are currently exercisable or may be exercised within 60 days of March 29, 2019. These stock options, RSUs and PSUs shall be deemed to be outstanding for the purpose of computing the percentage of shares beneficially owned by such person or group but shall not be deemed to be outstanding for the purpose of computing the percentage of shares beneficially owned by any other person or group.

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Name and Address of Beneficial Owner	Shares Beneficially Owned	Percentage of Shares Beneficially Owned(1)
BlackRock, Inc.(2) 55 East 52nd Street New York, New York 10055	5,473,471	16.2%
The Vanguard Group(3) 100 Vanguard Boulevard Malvern, Pennsylvania 19355	3,523,184	10.4%
Palo Alto Investors, LLC(4) 470 University Avenue Palo Alto, California 94301	3,381,197	10.0%
Jackson Square Partners, LLC(5) 101 California Street, Suite 3750 San Francisco, California 94111	2,959,998	8.8%
Camber Capital Management LLC(6) 101 Huntington Avenue Boston, Massachusetts 02199	2,650,000	7.9%
State Street Corporation(7) State Street Financial Center One Lincoln Street Boston, Massachusetts 02111	2,584,646	7.7%
Armistice Capital, LLC (8) 510 Madison Avenue New York, New York 10022	1,878,000	5.6%
William K. Heiden(9)	735,361	2.1%
Nicholas Grund(10)	103,690	*
Lesley Russell, MB. Ch.B., MRCP(11)	80,333	*
Davey S. Scoon(12)	78,800	*
Gino Santini(13)	78,325	*
Robert J. Perez(14)	73,800	*
Julie Krop, M.D.(15)	71,855	*
Edward Myles(16)	66,229	*
Barbara Deptula(17)	63,975	*
John A. Fallon, M.D.(18)	60,598	*
James R. Sulat(19)	59,909	*
J. Alan Butcher (20)	25,070	*
Kathrine O'Brien	—	*
Anne M. Phillips	—	*
All current directors and executive officers as a group (17 persons)(21)	1,718,400	4.9%

* Less than 1%.

Unless otherwise indicated, to our knowledge, each stockholder referred to above has sole voting and dispositive power with respect to the shares indicated, and the address of each stockholder is: c/o AMAG

(1) Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451. Applicable percentage ownership is based upon 33,746,828 shares of common stock outstanding as of March 29, 2019.

(2) BlackRock, Inc. has sole voting power with respect to 5,347,113 of such shares, sole dispositive power with respect to 5,473,471 of such shares and shared voting power with respect to none of such shares. We have relied

solely on information supplied by the reporting person on a Schedule 13G/A filed with the SEC on January 24, 2019.

The Vanguard Group has sole voting power with respect to 33,878 of such shares, sole dispositive power with (3) respect to 3,491,306 of such shares, shared voting power with respect to 1,800 of such shares and shared dispositive power with

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respect to 31,878 of such shares. We have relied solely on information supplied by the reporting persons on a Schedule 13G/A filed with the SEC on February 11, 2019.

(4) Reflects shares beneficially owned by Palo Alto Investors LP (“PAI”), PAI LLC (“PAI GP”), Patrick Lee, M.D., Anthony Joonkyoo Yun, M.D, and Palo Alto Healthcare Master Fund II, L.P. (“Healthcare Master II). Healthcare Master II, with an address of Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman, Cayman Islands, is the beneficial owner of and has shared voting and dispositive power with respect to 2,108,349 of such shares. PAI is an investment adviser investment limited partnerships and other investment funds. PAI GP is the general partner of investment limited partnerships and has shared voting and dispositive power of all 3,380,506 shares. Dr. Lee and Dr. Yun co-manage PAI and each has shared voting and dispositive power, along with PAI with respect to an aggregate of all 3,380,506 shares. Dr. Lee has sole voting and dispositive power with respect to 691 of such shares. We have relied solely on information supplied by the reporting persons on a Schedule 13G/A filed with the SEC on February 14, 2019.

(5) Jackson Square Partners, LLC has sole voting power with respect to 2,028,081 of such shares, sole dispositive power with respect to 2,959,998 of such shares, shared voting power with respect to 477,874 of such shares and shared dispositive power with respect to none of such shares. We have relied solely on information supplied by the reporting persons on a Schedule 13G filed with the SEC on February 12, 2019. On April 8, 2019, Jackson Square Partners filed with the SEC an amendment to its Schedule 13G indicating that it ceased to be the beneficial owner of more than 5% of our common stock as of March 31, 2019 (at which time it reported beneficial ownership of only 90,153 shares (less than 1%)).

(6) Reflects shares beneficially owned by Camber Capital Management LLC and Stephen DuBois. Each of the foregoing has shared voting and dispositive power with respect to all 2,650,000 shares. We have relied solely on information supplied by the reporting persons on a Schedule 13G/A filed with the SEC on February 14, 2018. State Street Corporation has sole voting power and sole dispositive power with respect to none of such shares and has shared voting power with respect to 2,405,511 shares and shared dispositive power with respect to all 2,584,646 shares. SSGA Funds Management, Inc., a subsidiary of State Street Corporation, has sole voting and dispositive power with respect to none of such shares and has shared voting power with respect to 1,858,892 shares and shared dispositive power with respect to 1,864,895 of such shares. We have relied solely on information supplied by the reporting persons on a Schedule 13G filed with the SEC on February 13, 2019.

(8) Reflects shares beneficially owned by Armistice Capital, LLC, Armistice Capital Master Fund Ltd. and Steven Boyd. Each of the foregoing has shared voting and dispositive power with respect to all 1,878,000 shares. We have relied solely on information supplied by the reporting persons on a Schedule 13G filed with the SEC on February 14, 2019.

(9) Includes 575,412 shares issuable to Mr. Heiden pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019.

(10) Includes 82,000 shares issuable to Mr. Grund pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019. Mr. Grund departed the Company in April 2019 and pursuant to the terms of his employment agreement with us, this amount reflects all time-based stock options and other time-based equity awards which would have vested if Mr. Grund had been employed for an additional 12 months following the date of termination.

(11) Includes 55,719 shares issuable to Dr. Russell pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Dr. Russell pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.

(12) Includes 53,586 shares issuable to Mr. Scoon pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Mr. Scoon pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.

(13) Includes 55,536 shares issuable to Mr. Santini pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Mr. Santini pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.

Includes 48,586 shares issuable to Mr. Perez pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Mr. Perez pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019, 2,500 shares held by the Christine E. Perez 2004 Revocable Trust, dated February 25, 2004, as amended (the "Perez Trust") and 1,900 shares held by the Robert J. Perez 2004 (14) Revocable Trust, dated February 25, 2004, as amended (the "Robert Perez Trust"). Mr. Perez's wife is the trustee of the Perez Trust. Mr. Perez does not have voting or dispositive power with respect to the shares held by the Perez Trust but would have sole voting and dispositive power were he to become trustee at his wife's death or incapacity. Mr. Perez is the trustee of the Robert Perez Trust and has sole voting and dispositive power with respect to the shares held by the Robert Perez Trust.

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- (15) Includes 56,125 shares issuable to Dr. Krop pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019.
Includes 43,500 shares issuable to Mr. Myles pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 6,668 shares issuable to Mr. Myles pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.
Includes 46,036 shares issuable to Ms. Deptula pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Ms. Deptula pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.
- (16) Includes 41,920 shares issuable to Dr. Fallon pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Dr. Fallon pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.
Includes 43,503 shares issuable to Mr. Sulat pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 3,279 shares issuable to Mr. Sulat pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.
- (17) Includes 15,598 shares issuable to Mr. Butcher pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 9,472 shares issuable to Mr. Butcher pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.
- (20) Includes 1,287,490 shares issuable to all of our current directors and executive officers as a group pursuant to options currently exercisable or exercisable within 60 days of March 29, 2019 and 39,093 shares issuable to all of our current directors and executive officers as a group pursuant to RSUs expected to vest or which may be settled within 60 days of March 29, 2019.
- (21)

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PROPOSAL 1: ELECTION OF DIRECTORS

You are being asked to vote for nine directors at this Annual Meeting, all of whom are currently directors of AMAG. If you are voting by proxy, the persons named as proxies in the enclosed proxy card will vote “For” each of the nine nominees named below, unless you instruct otherwise. In April 2019, it was determined that Dr. Russell would not be a nominee for election at the Annual Meeting.

Each director elected will hold office until the next annual meeting of stockholders and until his or her successor is elected and qualified, or until his or her earlier resignation or removal. Each of the nominees has indicated his or her willingness to serve, if elected. The Board knows of no reason why any of the nominees would be unable or unwilling to serve, but if any nominee should for any reason be unable or unwilling to serve, the proxies will be voted for the election of such other person for the office of director as the Board may recommend in the place of such nominee.

The brief biographies below include certain information, as of the date of this Proxy Statement, regarding the specific and particular experience, qualifications, attributes or skills of each nominee that led the Board to conclude that such nominee should continue to serve on the Board. Companies with a class of securities registered pursuant to Section 12 of the Exchange Act or subject to the requirements of Section 15(d) of the Exchange Act are referred to in the biographies below as “public” companies. Any company registered as an investment company under the Investment Company Act of 1940 is referred to as a “registered investment company” in the biographies below.

William K. Heiden, age 59, has been a director since May 2012. Mr. Heiden has been Chief Executive Officer of AMAG since May 2012 and served as President from May 2012 through April 2015 and from April 2017 to the present. Prior to joining AMAG, he was the President and Chief Executive Officer of GTC Biotherapeutics, Inc., now rEVO Biologics, Inc., a pharmaceutical company (“GTC”), from 2010 to 2012. Mr. Heiden was President and Chief Executive Officer and a member of the Board of Directors of Elixir Pharmaceuticals, Inc. (“Elixir”) from 2004 to 2008. Prior to joining Elixir, he served as President and Chief Operating Officer of Praecis Pharmaceuticals, Inc., which was subsequently acquired by GlaxoSmithKline plc, from 2002 to 2004. From 1987 to 2002, Mr. Heiden held various positions of increasing responsibility at Schering-Plough Corporation, now Merck & Co., including managing a number of businesses in the United States, Europe and Canada. Mr. Heiden has been a member of the Board of Directors of Atara Biotherapeutics, Inc. a public biopharmaceutical company, since June 2018. From 2006 to 2013, he served on the Board of Directors of LFB Biotechnologies S.A.S., a private French biotechnology company, and from 2007 to 2013, Mr. Heiden served as Chairman of the Board of Directors of GTC. Mr. Heiden holds a B.A. from the University of Florida, an M.B.A. from Cornell University’s Johnson Graduate School of Management, and a M.I.M. from the University of Louvain. The Board believes that Mr. Heiden’s 30 plus years of pharmaceutical industry experience leading organizations in both large pharmaceutical and emerging biotechnology companies, significant commercial expertise, and strong deal making experience provides the Board with valuable and specialized expertise as we commercialize and pursue expansion opportunities for our current products, and as we pursue additional business development opportunities and grow our organization.

Barbara Deptula, age 64, has been a director since September 2013. She served as the Executive Vice President of Business Development and Chief Corporate Development Officer of Shire Plc. (“Shire”), a public biopharmaceutical company, from 2004 to 2012. Prior to joining Shire, Ms. Deptula served as President of the biotechnology division of SICOR, Inc. from 2003 to 2004. Prior to SICOR, Inc., Ms. Deptula served as Senior Vice President for Coley Pharmaceutical Group, Inc. from 2000 to 2003. Prior to 2000, she also held senior management positions in public and private pharmaceutical companies where Ms. Deptula focused on marketing, product development, licensing and business development, including US Bioscience, Inc., Schering Plough International, Lederle Laboratories, a division of American Cyanamid Co., U.S.A., and Genetics Institute. Ms. Deptula holds a B.S. in Pharmacy from the University of Connecticut’s School of Pharmacy and an M.B.A. with a concentration in finance from the University of Chicago Booth School of Business. The Board believes that Ms. Deptula’s qualifications to sit on our Board include her decades of experience in a variety of biotechnology and multi-national pharmaceuticals organizations including her role as Chief Corporate Development Officer at Shire in light of our strategic business development initiatives, which focus on acquiring and in-licensing additional pharmaceutical products as well as out-licensing certain programs in territories in which we do not have a strategic focus.

John A. Fallon, M.D., age 71, has been a director since September 2014. From 2004 until January 2016, Dr. Fallon served as Senior Vice President and Chief Physician Executive at Blue Cross & Blue Shield of Massachusetts (“BCBS”). Prior to his role at BCBS, Dr. Fallon served as Chief Executive Officer for clinical affairs at the State University of New York Downstate Medical Center, including University Hospital of Brooklyn and the clinical faculty practice plan. His professional experience also includes the Partners Healthcare System, where he was chairman of the physician network. Dr. Fallon was also the founder and Chief Executive Officer of North Shore Health System, a large physician-hospital organization in Massachusetts. He has served on the Board of Directors of Insulet Corporation, a public medical devices company, since 2012 and as the lead independent director from February 2015 to August 2016 and currently serves as the Chair of the Nominating, Governance and Risk Committee. In addition, Dr. Fallon has been a member of the Board of Directors of Exact Sciences Corporation, a public

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molecular diagnostics company, since January 2016 where he is also a member of the Audit Committee and Nominating and Governance Committee. Dr. Fallon has also served on the Board of Directors of Collegium Pharmaceutical Inc., a public pharmaceutical company, since June 2016 where he is also a member of the Audit Committee and the Nominating and Governance Committee. Dr. Fallon also serves on NEHI (Network for Excellence in Health Innovation) (Chair), a non-profit board. Dr. Fallon practiced internal medicine for more than 20 years, fulfilled his residency at Boston City Hospital, is Board Certified in Internal Medicine and is a fellow of the American College of Physicians. He received a B.A. in chemistry from the College of the Holy Cross, an M.B.A from the University of South Florida and a medical degree from Tufts University School of Medicine. The Board believes that Dr. Fallon's qualifications to sit on our Board include his strong executive experience and extensive expertise in running a managed healthcare organization, including with pharmaceutical reimbursement and pricing issues, his experience as an executive of a leading healthcare insurance company and his experience as a clinician and administrator in academia and community-based health systems.

Kathrine O'Brien, age 56, has been a director since April 2019. Ms. O'Brien served from 1984 to September 2018 in roles of increasing responsibility at Unilever PLC., a public consumer goods company, where she most recently served as Vice President/General Manager, Skin & Marketing Services. She has been a member of the Board of Directors of Tabula Rasa HealthCare, Inc., a public healthcare technology company, since November 2018 and has been a member of the Board of Trustees of Lehigh Valley Health Network, a medical group, since June 2017. Ms. O'Brien holds a B.A. in economics from Boston College and an M.B.A. from Columbia University. The Board believes that Ms. O'Brien's qualifications to sit on our Board include her decades of experience and recognition in the marketing field, including digital and social media, with a focus on women's personal care products, in light of our commercial programs, which focus, in part, in the women's health area and utilize direct-to-consumer marketing strategies.

Robert J. Perez, age 54, has been a director since January 2009. Mr. Perez has been an Operating Partner at General Atlantic, a global growth equity firm, since January 2019, the Executive Chairman and member of the Board of Directors of Akili Interactive Labs, Inc. since 2017, the founder and Chairman of Life Science Cares, a non-profit organization, since 2016, and was the founder and Managing Partner at Vineyard Sound Advisors, LLC, a biopharmaceutical consulting firm, from March 2015 to December 2018. He previously served as Chief Executive Officer of Cubist Pharmaceuticals, Inc. ("Cubist"), a public pharmaceutical company, from January 1, 2015 until Cubist was acquired by Merck & Co., Inc. later that month. Mr. Perez joined Cubist in 2003 as Senior Vice President, Sales and Marketing, and led the launch of Cubicin® (daptomycin for injection). He served as Executive Vice President and Chief Operating Officer from 2007 to 2012 and President and Chief Operating Officer from 2012 to December 2014. Prior to joining Cubist, Mr. Perez served as Vice President of Biogen, Inc.'s CNS business unit from 2001 to 2003, where he was responsible for commercial leadership of an \$800 million neurology business unit, and from 1995 to 2001 he held positions of increasing responsibility within Biogen's CNS commercial organization. From 1987 to 1995 Mr. Perez held various sales and marketing positions at Zeneca Pharmaceuticals. Mr. Perez has been a member of the Board of Directors of Zafgen, Inc. a public biopharmaceutical company, since September 2015, a member of the Board of Directors of Spark Therapeutics, Inc., a public gene therapy company, since January 2018 and a member of the Board of Directors of Unum Therapeutics Inc., a public biopharmaceutical company, since March 2018. In addition, Mr. Perez has served as a member of the Board of Directors of Vir Biotechnology, Inc., a biotechnology company, since February 2017 and a member of the Board of Directors of ImmusanT, Inc., a biotechnology company, since April 2018. Mr. Perez also currently serves as a member of the Board of Trustees at the Dana-Farber Cancer Institute, Inc. Mr. Perez was a member of the Board of Directors of Cidara Therapeutics, Inc., a public biotechnology company, from March 2015 to June 2018, a member of the Board of Directors of Flex Pharma, a public biotechnology company, from September 2015 to January 2018 and a member of the Board of Directors of Cubist from April 2014 to January 2015. Mr. Perez received a B.S. from California State University, Los Angeles and an M.B.A. from the Anderson Graduate School of Management at the University of California, Los Angeles. The Board believes that Mr. Perez's more than twenty years of sales and marketing experience within the pharmaceutical and biotechnology industries has provided him with valuable commercial and operational experience, as well as leadership skills that are

important to the Board. In particular, Mr. Perez's experience leading the launch and commercialization of highly successful specialty pharmaceutical products, including his experience with life cycle management programs, is especially valuable to the Board as we continue to commercialize our products and as we seek to commercialize additional in-licensed or acquired products.

Anne M. Phillips, M.D., FRCPC, age 65, has been a director since April 2019. Dr. Phillips currently holds the position of Senior Vice President, Clinical Development, Medical and Regulatory Affairs at Novo Nordisk, Inc., a pharmaceutical company, where she has served since 2011. Prior to Novo Nordisk, Dr. Phillips served in various roles of increasing responsibility from 1998 to 2010 at GlaxoSmithKline plc, a global healthcare company. Dr. Phillips also served as the Head of the Infectious Diseases Program and Deputy Physician-in-Chief at Wellesley Central Hospital/St. Michael's Hospital in Toronto, Canada. She has been a member of the Board of Directors of Trevena, Inc., a public biopharmaceutical company, since December 2014, where she is also a member on the Nominating and Corporate Governance Committee and Compensation Committee. Dr. Phillips is a Fellow of The Royal College of Physicians and Surgeons of Canada, earned an M.D. from the University of Toronto and received a BSc from the University of Western Ontario. The Board believes that Dr.

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Phillips' broad-based expertise in the pharmaceutical industry leading clinical research and development, medical, and regulatory functions, as well as her medical training, allows her to make valuable contributions to the medical and scientific understanding of the Board, which is particularly important given our expansive development pipeline, including our AMAG-423 and ciraparantag products.

Gino Santini, age 62, has been a director since February 2012 and has served as Chairman of the Board of Directors since April 2014. From 1983 to 2010, Mr. Santini held a variety of commercial and operational roles at Eli Lilly and Company ("Eli Lilly"), a public pharmaceutical company, serving most recently from 2007 to 2010 as Senior Vice President, Corporate Strategy and Business Development, where he led corporate strategy and long-range planning, mergers and acquisitions, new product licensing and the expansion of Lilly Ventures in the U.S. and China. During his tenure at Eli Lilly, Mr. Santini held various leadership positions of increasing responsibility, including manager of various international regions, Senior Vice President of Corporate Strategy and Policy from 2004 to 2007, President of U.S. operations from 1999 to 2004 and President of the women's health franchise from 1997 to 1999. Mr. Santini has served on the Board of Directors of Collegium Pharmaceuticals, Inc., a public pharmaceutical company, since 2012, where he is the chair of the Compliance Committee and a member of the Compensation Committee. Mr. Santini has also served on the Board of Directors of Allena Pharmaceuticals, Inc., a public specialty pharmaceutical company, since 2012 where he is the chair of the Compensation Committee and a member of the Audit Committee. Since December 2015, Mr. Santini has served on the Board of Directors of Intercept Pharmaceuticals, Inc. a public biopharmaceutical company, where he is also the chair of the Compensation Committee and a member of the Audit Committee. Mr. Santini also serves on the Board of Directors, as well as the Chair of the Transactions Committee and a member of the Compensation Committee of the Board of Directors, of Horizon Pharma, Plc., a public biopharmaceutical company, where he has been a director since 2012. Mr. Santini has served on the Board of Directors of Intarcia Therapeutics, Inc., a biopharmaceutical company, since 2013 and Artax Biopharma Inc., a biopharmaceutical company, since April 2014. Mr. Santini was a member of the Board of Directors of Vitae Pharmaceuticals, Inc., a public pharmaceutical company, from September 2014 to November 2016 when it was acquired by Allergan plc in October 2016. He holds an undergraduate degree in mechanical engineering from the University of Bologna and an M.B.A. from the Simon School of Business, University of Rochester. The Board believes that Mr. Santini's long career at Eli Lilly and extensive domestic and international commercial, corporate strategy, business development and transaction experience are valuable skill sets for the Board as it seeks to continue to drive growth and seeks to acquire or in-license other assets or companies to further expand our product portfolio, such as our recent acquisition of AMAG-423 and ciraparantag. Mr. Santini's more recent experience on a variety of small to mid-size pharmaceutical companies' boards is also helpful to his work on the AMAG board.

Davey S. Scoon, age 72, has been a director since December 2006. Mr. Scoon served as Chief Administrative and Financial Officer of Tom's of Maine, a company that manufactures natural care products, from 2003 to 2005. From 2001 to 2003, Mr. Scoon served as Chief Financial and Administrative Officer for Sun Life Financial U.S., and from 1999 to 2001, Mr. Scoon served as Vice President and Chief Financial Officer for Sun Life Financial U.S. From 1985 to 1999, Mr. Scoon was employed by Liberty Funds Group of Boston (formerly Colonial Management) in various capacities, including Chief Financial Officer and Chief Operating Officer. Since 2012, Mr. Scoon has been a member of the Board of Directors and the Chairman of the Audit Committee of Albireo Pharma, Inc. (formerly known as Bidel Inc.), a public biopharmaceutical company. Mr. Scoon has been a director of Allianz Funds, a registered investment company, since 2006, where he also served as Chairman of the Board of Trustees until January 2019. Mr. Scoon was also a member of the Board of Directors and the Audit Committee of Orthofix International, N.V., a medical device company, from 2011 to June 2015. Mr. Scoon has been an Adjunct Professor at the University of Wisconsin-Madison since 2011. Mr. Scoon holds a B.B.A. from the University of Wisconsin and an M.B.A. from Harvard Business School. The Board believes that Mr. Scoon's extensive financial, accounting and operational experience gained through the various executive and board positions he has held over the past 30 years provides the Board with valuable and highly specialized expertise and advice, particularly in Mr. Scoon's role as the Chair of the Audit Committee.

James R. Sulat, age 68, has been a director since April 2014. From 2009 to 2013, Mr. Sulat served as Chief Executive Officer and Chief Financial Officer of Maxygen, Inc. (“Maxygen”), a public biopharmaceutical company, and was a member of Maxygen’s Board of Directors from 2003 to 2013. From 2005 until 2008, Mr. Sulat served in several roles for Memory Pharmaceuticals Corp. (“Memory”), including as President and Chief Executive Officer from 2005 to 2008, as Chief Financial Officer during 2008, and as a member of Memory’s Board of Directors from 2005 to 2009.

Mr. Sulat has served on the Board of Directors of Arch Therapeutics, Inc., a public medical device company, since August 2015. Since 2008, Mr. Sulat has served as the Chairman of the Board of Directors for Momenta Pharmaceuticals, Inc., a public biotechnology company, and is a member of its Audit Committee and Nomination and Corporate Governance Committee. Since 2005, Mr. Sulat has served on the Supervisory Board of Intercell AG and, its successor company, Valneva SE, both public European biotechnology companies. Mr. Sulat currently serves as Vice Chairman of Valneva’s Supervisory Board and as Chairman of its Audit Committee. Mr. Sulat served on the Board of Directors of Diadexus, Inc., a public diagnostics company, from January 2015 to June 2016 as well as Chairman of its Audit Committee and a member of its Nominating and Corporate Governance Committee. Mr. Sulat also served as a member of the Board of Directors for Tolero Pharmaceuticals, Inc., a private biopharmaceutical company, from April 2015 to January 2017, when it was acquired by Sumitomo Dainippon Pharma Co., Ltd. Mr. Sulat received

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his B.S. in Administrative Sciences from Yale University. He received his M.B.A. and his M.S. in Health Services Administration from Stanford University. The Board believes that Mr. Sulat's qualifications to sit on our Board include his strong executive experience and extensive financial accounting, corporate finance, operations and business development expertise garnered through his executive roles and his board-level experience at various public and private companies.

Required Vote

Each nominee must receive more votes cast "For" such nominee's election than the votes cast "Against" such nominee's election (i.e., a majority of the votes cast). Our Corporate Governance Guidelines provide that if an incumbent director is not elected by at least a majority of votes cast, the Governance and Risk Committee shall promptly consider his or her resignation, and make a recommendation to the Board as to whether to accept or reject the resignation, or whether other action should be taken. The Board will act on the Governance and Risk Committee's recommendation within 30 days following certification of the stockholder vote, as further described below under "Information Regarding The Board Of Directors And Corporate Governance - Director Resignation Policy".

OUR BOARD UNANIMOUSLY RECOMMENDS

A VOTE "FOR" EACH OF THE NOMINEES LISTED ABOVE

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INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE
INDEPENDENCE OF THE BOARD OF DIRECTORS

The Board has determined that, other than Mr. Heiden, each nominee is “independent” as such term is defined in the listing standards of the NASDAQ Stock Market (“NASDAQ”). The Board has affirmatively determined that no independent director has any material relationship with us that would interfere with the exercise of his or her independent judgment.

BOARD LEADERSHIP STRUCTURE

Our Board is led by an independent Chair, currently Mr. Santini, who has authority, among other things, to call and preside over Board meetings, including meetings of the independent directors, to set meeting agendas, and to determine the materials distributed to the Board. During 2018, our Chief Executive Officer, Mr. Heiden, was and continues to be the only member of our Board who is not an independent director. Our Corporate Governance Guidelines provide our Board with flexibility to determine the appropriate leadership structure based on the specific needs of the business and the best interests of our stockholders. Although we do not have a formal policy regarding whether the offices of Chair of the Board and Chief Executive Officer should be separate, our Board believes that the existing leadership structure, with the separation of the Chair of the Board and Chief Executive Officer roles, is appropriate at the current time. The Board believes that the current structure enhances the accountability of the Chief Executive Officer to the Board and strengthens the Board’s independence from management, including helping to ensure that any potential strategic transactions involving AMAG are evaluated independently of management’s interest and in light of the best interests of our stockholders. Separating these roles also alleviates the administrative burden on our Chief Executive Officer and allows that person to focus his or her efforts on managing our business in the best interests of our stockholders. The Board recognizes that, depending on the circumstances, other leadership models, such as combining the role of Chair and Chief Executive Officer, might be appropriate and, accordingly, the Board periodically reviews its leadership structure.

DIRECTOR RESIGNATION POLICY

Under Delaware law, an incumbent director may remain in office notwithstanding the failure to receive the required vote for re-election until the director’s successor is duly elected. To address this “holdover rule,” our Corporate Governance Guidelines include a director resignation policy, whereby our Board will nominate for re-election or fill vacancies with only those directors who tender an irrevocable, contingent resignation in writing that will become effective upon (a) the failure to receive the required vote at the next stockholders’ meeting at which they face election and (b) the Board’s acceptance of such resignation. If a director fails to receive the required vote for re-election, the Governance and Risk Committee will promptly consider the director’s resignation and the circumstances that led to such director’s failure to receive the required vote for re-election (if known), and recommend to the full Board whether to accept or reject such director’s resignation. Our Board expects the director whose resignation is under consideration to abstain from participating in any decision regarding such director’s resignation. In considering whether to accept or reject a director’s resignation, the Governance and Risk Committee and Board may consider any factors it deems relevant. Within 30 days after the date of the certification of the election results for the applicable stockholders’ meeting, our Board will act on the resignation, taking into account the Governance and Risk Committee’s recommendation, and publicly disclose its decision in a Current Report on Form 8-K.

THE BOARD’S ROLE IN RISK OVERSIGHT

The Board acknowledges that the successful development and commercialization of products is an enterprise of inherent risk, including significant risk in each of the drug development, regulatory approval, launch, commercialization and life cycle management stages. Accordingly, the Board believes that the identification, prioritization and management of risks are an integral part of establishing, updating and executing on our business strategy. The Board, both as a whole and at the committee level, has oversight responsibility relating to risks that could affect the corporate strategy, business objectives, compliance, operations, financial condition, and performance of the Company. Although the Board maintains ultimate responsibility for such enterprise risk assessment, the Board has delegated to the Governance and Risk Committee the responsibility of providing oversight with respect to our risk management process. Such oversight responsibilities include a review of the steps management has taken to monitor,

control and report such exposures, periodic reviews of our policies with respect to risk assessment and risk management, including periodic enterprise risk management assessments, and reporting on such reviews to the full Board.

Our senior executives regularly attend meetings of the Board, the Governance and Risk Committee and other committees, and provide the Board and its committees with regular reports regarding our operations, strategies, and objectives and the risks inherent within them. Board and committee meetings also provide a venue for directors to discuss issues with, request

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additional information from, and provide guidance to, senior management. The Board and its committees call special meetings and request information and reports from senior management when necessary to address specific issues. In addition, our directors have direct access to senior management to discuss any matters of interest, including those related to risk. Those members of management most knowledgeable of the issues regularly attend Board and committee meetings to provide additional insight into items being discussed, including risk exposures.

The Board understands that risks can arise from any decision or action taken by the Company, whether strategic or operational. The Board approves our high level goals, strategies, and policies to set the tone and direction for appropriate risk taking within the business. The Board and its committees then emphasize this tone and direction in their oversight of management's implementation of our goals, strategies, and policies. The Board has delegated general oversight of enterprise risk to the Governance and Risk Committee and, for matters involving certain specific areas of risk exposure, to other standing committees, such as the Audit Committee and Compensation Committee. Each of these committees reports to the Board at regularly scheduled Board meetings, as needed, and more frequently if appropriate, with respect to the matters and risks for which the committee provides oversight. Each committee is also authorized and empowered to retain independent advisors, as the committee deems appropriate, in order to discharge its responsibilities under the committee's charter, and such independent advisors attend committee meetings as appropriate. The committees of the Board execute their risk oversight responsibility for risk management as follows: The Governance and Risk Committee is responsible for providing oversight with respect to our risk management process, including reviewing the steps management has taken to identify, monitor, control and report areas of risk, our policies with respect to risk assessment and our risk management processes, including periodic enterprise risk management assessments and information security risk assessments. In addition, the Governance and Risk Committee has historically overseen risks related to our corporate governance, including Board and director performance, director succession, director education and the review of our Corporate Governance Guidelines and other governance documents. The Governance and Risk Committee also oversees our overall compliance program, with particular emphasis on the risks associated with our healthcare compliance program.

The Audit Committee oversees the integrity of our financial statements, reporting process and internal controls, the relationship with our independent registered public accounting firm, including its qualifications, independence and performance, and our corporate finance matters, including our capital structure. The Audit Committee also provides oversight with respect to the financial aspects of our risk management process, discussing with management our significant financial risk exposures, steps management has taken to monitor, control and report such exposures, and our policies with respect to risk assessment and risk management.

The Compensation Committee is primarily responsible for the design and oversight of our executive compensation philosophy, policies, plans and practices. A key objective of the Compensation Committee is to ensure that our overall executive compensation program appropriately links pay to performance and aligns the interests of our executives with our stockholders. The Compensation Committee also monitors the design and administration of our overall incentive compensation programs to ensure that such programs include appropriate safeguards to avoid encouraging unnecessary or excessive risk taking by our employees. Elements of our executive compensation program that mitigate excessive risk taking, such as our combination of short- and long-term incentives, are described below under "Compensation Discussion and Analysis."

RISK CONSIDERATIONS IN OUR COMPENSATION POLICIES AND PRACTICES

Our Compensation Committee believes that risks arising from our employee compensation policies and practices are not likely to have a material adverse effect on the Company. In addition, the Compensation Committee believes that the mix and design of the elements of executive compensation do not encourage management to take excessive risks. The considerations which led the Compensation Committee to these conclusions include the following:

We provide executives with a competitive base salary, which we believe mitigates risk-taking behavior by providing reasonable predictability in the base level of income earned by each executive and alleviating pressure on executives to focus exclusively on near-term stock price performance or annual bonus awards to the detriment of building long-term stockholder value;

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We utilize a mixture of compensation elements intended to be competitive to compensation packages offered to similarly-situated executives at comparable companies within our industry, with significant weighting towards long-term incentive compensation, which has retention value and which discourages short-term risk taking; Our performance goals for our annual cash bonus awards reflect a balanced mix of performance measures, including objective performance measures, to avoid excessive weight on any one goal or performance measure and are intended

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to be challenging yet attainable, so that it is more likely than not that the executives will earn a substantial portion of their target bonus annually, which mitigates the potential that our executives will take excessive risks;

Short-term incentives in the form of annual performance bonus payouts are capped at 200% of the target amount, which discourages our executives from taking excessive risks;

Equity incentive awards are granted annually and generally vest over three to four years, discouraging excessive risk-taking as our executives generally have a significant amount of unvested awards that could decrease significantly in value if our business is not managed for the long-term;

We maintain a long-term incentive plan in order to further align the goals and interests of executives and senior management to the long-term interests of the Company and our stockholders and to enable us to attract and retain highly qualified executives and employees (the "LTIP"). The LTIP includes awards of PSUs, which will vest, if at all, based on the Company's total shareholder return ("TSR") performance measured against the median TSR of a defined comparator group of companies over a three-year period;

Compliance, ethical behavior and adherence to our corporate values and policies are integral factors considered in all performance assessments and serve to mitigate the potential that our executives will take excessive risks. The Board and the Compensation Committee retain discretion to adjust compensation based on both the quality of Company and individual performance and adherence to our corporate governance and compliance programs, among other things;

To minimize the risk of certain transactions related to our securities, we have adopted policies prohibiting directors, officers and other employees from engaging in the following transactions with respect to our securities: (a) selling short, (b) buying or selling puts or calls, (c) purchasing on margin or (d) pledging or creating any other encumbrance with respect to our securities;

To further align the interests of our executives with our stockholders, our executive officers are subject to stock ownership guidelines;

Our executive officers are subject to a clawback policy under which we can recover incentive compensation from certain officers in the event we are required to prepare an accounting restatement due to material noncompliance with financial statement requirements; and

We have a robust system of internal controls and a comprehensive compliance program, which includes extensive training of all employees, which we believe promotes a culture of ethical behavior and compliance, as well as an appropriate attitude toward minimizing risk-taking.

POLICY ON PLEDGING, HEDGING AND TRADING OF COMPANY STOCK

Certain transactions in our securities (such as purchases and sales of publicly traded put and call options, and short sales) create a heightened compliance risk or could create the appearance of misalignment between management and stockholders. In addition, securities held in a margin account or pledged as collateral may be sold without consent if the owner fails to meet a margin call or defaults on the loan, thus creating the risk that a sale may occur at a time when an officer or director is aware of material, non-public information or otherwise is not permitted to trade in Company securities. Therefore, we have adopted policies prohibiting directors, officers and other employees from selling short, buying or selling puts or calls, purchasing on margin and pledging or creating any other encumbrance with respect to our securities.

MEETINGS OF THE BOARD OF DIRECTORS

Our Board met 11 times during the year ended December 31, 2018. Each director participated in at least 75% of the aggregate number of meetings of the Board and of each committee of the Board on which he or she served during the portion of the last fiscal year for which such person was a director or committee member. It is our policy that our directors are expected to attend each annual meeting of stockholders. All of our then-serving directors attended our annual meeting of stockholders held on June 7, 2018.

In addition, our independent directors meet regularly, and in any event at least twice a year, in executive session without the presence of management.

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COMMITTEES OF THE BOARD OF DIRECTORS

Standing Committees

Under our by-laws, our Board may designate committees comprised of members of the Board to exercise the power and authority of the Board in the management of our business and affairs, subject to limitations imposed by law. Our Board currently has the following standing committees: an Audit Committee, a Compensation Committee, and a Governance and Risk Committee. The following table provides membership information for the current composition of these committees:

Name	Audit Committee	Compensation Committee	Governance and Risk Committee
Barbara Deptula	X	—	—
William K. Heiden	—	—	—
John A. Fallon, M.D.	—	X	X*
Kathrine O'Brien	—	—	—
Robert J. Perez	—	—	X
Anne M. Phillips, M.D., FRCPC	—	—	—
Lesley Russell, MB.Ch.B., MRCP	—	X*	—
Gino Santini	—	X	—
Davey S. Scoon	X*	—	X
James R. Sulat	X	—	—

* Committee Chair

Audit Committee

Our Board has a standing Audit Committee, which conducted nine formal meetings during the year ended December 31, 2018. The Audit Committee is currently comprised of Messrs. Scoon (Chair) and Sulat and Ms. Deptula, each of whom is “independent” as such term is defined in the listing standards of NASDAQ and applicable SEC rules and each of whom served on the Audit Committee throughout 2018. Based on Mr. Scoon’s and Mr. Sulat’s extensive financial and accounting experience gained through their various executive and board positions, including respective tenures as Chief Financial Officer and/or Chief Administrative Officer of several companies, our Board has determined that Messrs. Scoon and Sulat each qualify as an “audit committee financial expert” as defined by SEC rules. The Board has also determined that Ms. Deptula possesses the requisite financial sophistication to qualify her for service on the Audit Committee in accordance with SEC rules. The current charter of the Audit Committee is available on our website at www.amagpharma.com, under the heading “Investors.”

Pursuant to its charter, the Audit Committee’s general responsibilities include, among other things, the following:

- Evaluating and selecting our independent registered public accounting firm;
- Reviewing our audited and unaudited financial statements;
- Reviewing and discussing the adequacy of our internal financial and accounting processes and internal control over financial reporting with management and our independent registered public accounting firm;
- Supervising the relationship between us and our independent registered public accounting firm;
- Reviewing and authorizing the scope of both audit and non-audit services and related fees;
- Evaluating the independence of our independent registered public accounting firm;
- Reviewing and approving related person transactions; and
- To the extent deemed necessary by the Audit Committee to carry out its duties, engaging and compensating independent counsel and other advisers to review any matter under its responsibility.

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Compensation Committee

Our Board has a standing Compensation Committee, which conducted six formal meetings during the year ended December 31, 2018. Currently, the Compensation Committee is comprised of Drs. Russell (Chair) and Fallon and Mr. Santini, each of whom is “independent” as such term is defined in the listing standards of NASDAQ, is a “non-employee director” within the meaning of Rule 16b-3 under the Exchange Act and is an “outside director” as defined in Section 162(m) of the Internal Revenue Code, as amended (the “Code”). Drs. Russell and Fallon and Mr. Santini each served on the Compensation Committee throughout 2018. The current charter of the Compensation Committee is available on our website at www.amagpharma.com, under the heading “Investors.”

Pursuant to its charter, the Compensation Committee’s general responsibilities currently include, among other things, the following:

The review, authorization and approval of the recruitment, hiring and compensation for any of our executive officers and any other of our officers with a title of Senior Vice President or higher, including our Chief Executive Officer.

The Compensation Committee may delegate any authority granted to it under this Charter to the Chair or any other member of the Compensation Committee, or to any member or members of senior management, as it deems advisable. The Compensation Committee generally delegates the ability to approve the recruitment, hiring and compensation for any of our Senior Vice Presidents or below to our Chief Executive Officer;

The exercise of all rights, authority and functions of the Board under all of our stock option, stock incentive, employee stock purchase and other equity-based plans, including the authority to interpret their terms, to grant options, and to make stock awards (provided that, except as otherwise expressly authorized to do so by a plan or resolution of the Board, the Compensation Committee shall not be authorized to amend any such plan);

The review and recommendation to the full Board with respect to director compensation;

Oversight regarding our public disclosure of director and executive compensation information; and

The engagement of compensation consultants and other advisers as it deems necessary or appropriate to carry out its responsibilities. The Compensation Committee assesses the independence and any potential conflicts of interest of compensation advisors in accordance with applicable law and NASDAQ listing standards.

Governance and Risk Committee

Our Board has established a standing Governance and Risk Committee, which is currently comprised of Dr. Fallon (Chair), and Messrs. Perez and Scoon, each of whom is “independent” as such term is defined in the listing standards of NASDAQ and each of whom served on the Governance and Risk Committee throughout 2018. The Governance and Risk Committee conducted four formal meetings during the year ended December 31, 2018. The current charter for the Governance and Risk Committee is available on our website at www.amagpharma.com, under the heading “Investors.”

Pursuant to its charter, the Governance and Risk Committee’s general responsibilities include, among other things, the following:

Assisting the Board in determining the desired experience, mix of skills and other criteria and qualities appropriate for Board membership;

Actively seeking individuals qualified to become members of the Board, consistent with criteria approved by the Board, and recommending director nominees for selection by the Board for nomination to fill expiring terms of directors at each annual meeting of stockholders;

Periodically reviewing and assessing the adequacy of the Corporate Governance Guidelines and recommending any modifications to the Corporate Governance Guidelines to the Board for approval;

Performing a self-evaluation by Board members and by members of the Governance and Risk Committee from time to time to determine whether they are functioning effectively and to improve the performance of the Board and/or Committee as a whole;

Providing oversight and guidance to senior management concerning the assessment and management of the Company’s risk and assist the Board in providing oversight of our risk management process, including conducting periodic enterprise risk management assessments;

Providing oversight of and guidance with respect to our internal compliance program;

• To the extent required or advisable, develop, implement, review and monitor an orientation and education program for members of the Board; and

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Retaining and terminating any search firm to be used to identify director candidates, including approving the search firm's fees and other retention terms. The Governance and Risk Committee shall also have authority to obtain advice and assistance from internal or external legal, accounting or other advisors.

Our Corporate Governance Guidelines set forth certain general criteria for nomination as a director and provide that in identifying prospective director candidates, the Governance and Risk Committee may consider all facts and circumstances that it deems appropriate or advisable, including, among other things, the skills of the prospective director candidate, his or her depth and breadth of business experience or other background characteristics, his or her independence and the needs of the Board. The backgrounds and qualifications of a nominee should be considered in the context of the backgrounds and qualifications of the current directors as a group, which should provide a significant breadth of experience, knowledge and abilities that shall assist the Board in fulfilling its responsibilities. The Board has the authority to consider and approve from time to time the criteria that it deems necessary or advisable for prospective director candidates. The Board has delegated to the Governance and Risk Committee the responsibility for assisting the Board in determining the desired experience, mix of skills and other criteria and qualities appropriate for Board membership. As part of its evaluation, the Governance and Risk Committee conducts periodic assessments of key competencies needed to be an effective and contributing member of the Board, which aids the Governance and Risk Committee in determining which specific skills or attributes in potential new directors would benefit the Board as a whole. The Board has determined that such criteria, at a minimum, includes the following:

- Nominees should have experience at a strategic or policymaking level;
- Nominees should be highly accomplished in his or her respective field, with superior credentials and recognition and demonstrated ability to exercise sound judgment in matters that relate to our current and long-term objectives;
- Nominees should have a long-term reputation for integrity, honesty and adherence to high ethical and moral standards;
- Nominees should have the commitment and ability to understand our business and industry, as well as the sometimes conflicting interests of our various constituencies, which include stockholders, employees, customers, governmental units, creditors and the general public, and to act in the interests of all stockholders;
- Nominees should have sufficient time and availability to devote to the Company's affairs, particularly in light of the number of boards of directors on which such nominee may serve and should be willing and able to contribute positively to the decision-making process of the Company; and
- Nominees should not have, nor appear to have, a conflict of interest that would impair such nominee's ability to represent the interests of all our stockholders and to fulfill the responsibilities of a director.

Further, nominees shall not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law. The Governance and Risk Committee believes that the value of diversity on the Board should be considered as one of a number of factors that it takes into account in evaluating nominees and the Board as a whole. For example, women currently comprise 33% of our Board; moreover, women hold approximately 45% of our leadership positions in the Company, with titles of Director or higher. The Governance and Risk Committee evaluates diversity in terms of race, religion, national origin, gender, sexual orientation, and disability, as well as differences of viewpoint, professional experience, education, skill, and other individual qualities and attributes that contribute to heterogeneity on the Board.

Our Corporate Governance Guidelines also provide that the nomination of existing directors should not be viewed as automatic, but should be based on continuing qualification under the criteria set forth above or otherwise determined by the Board and the overall needs of the Board. The Governance and Risk Committee considers the existing directors' performance on our Board and its committees in making its nomination recommendations. In seeking new candidates for directors, members of our Governance and Risk Committee may use their business, professional and personal contacts, accept recommendations from other Board members or management, or engage a professional search firm. In 2018, the Board retained Russell Reynolds Associates to conduct a search to identify candidates to serve on the Board. The search resulted in the appointment of Kathrine O'Brien and Anne Phillips to the Board in April 2019. The Governance and Risk Committee will also consider director nominee candidates who are recommended by our stockholders. Our Corporate Governance Guidelines provide the procedures stockholders should follow in making

such a recommendation, which generally provide that all stockholder recommendations for director candidates must be submitted to us not less than 120 calendar days prior to the date on which our proxy statement was released to stockholders in connection with the previous year's annual meeting. All stockholder recommendations for director candidates must include the following information:

•The name and address of record of the stockholder;

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A representation that the stockholder is a record holder of the Company's securities, or if the stockholder is not a record holder, evidence of ownership in accordance with Rule 14a-8(b)(2) of the Exchange Act;

The name, age, business and residential address, educational background, current principal occupation or employment, and principal occupation or employment for the preceding five full fiscal years of the proposed director candidate;

A description of the qualifications and background of the proposed director candidate which addresses the criteria for Board membership approved by the Board and set forth in the Corporate Governance Guidelines and/or the charter of the Governance and Risk Committee;

A description of all arrangements or understandings between the stockholder and the proposed director candidate;

The consent of the proposed director candidate (a) to be named in the proxy statement relating to our annual meeting of stockholders and (b) to serve as a director if elected at such annual meeting;

A statement that the proposed director candidate will tender an irrevocable resignation, effective upon such person's failure to receive the required vote for election at the next meeting at which such person would face election (or re-election) and upon acceptance of such resignation; and

Any other information regarding the proposed director candidate that is required to be included in a proxy statement filed pursuant to the rules of the SEC.

In considering stockholder recommendations for nominees, the Governance and Risk Committee may request additional information concerning the nominee or the applicable stockholder or stockholders. Stockholder recommendations will be considered using the same criteria as other candidates. The foregoing applies only to recommendations. Actual nominations by stockholders or others, if and to the extent permitted, must be made in accordance with our by-laws and applicable state and federal laws. See the discussion below under "Stockholder Proposals."

The nominations for the election of directors at the Annual Meeting contained in this Proxy Statement are based upon the unanimous recommendation of the Governance and Risk Committee to the full Board in March 2019.

Other Committees of the Board

Transaction Committee

Our Board has established a Transaction Committee to, on an ad hoc basis, oversee, advise and assist our management with respect to the identification, evaluation, structuring, negotiation and execution of potential acquisitions, in-licenses, mergers and other strategic transactions involving AMAG and to make recommendations with respect thereto to the full Board, and to undertake such other responsibilities as may be delegated to the Transaction Committee by the Board from time to time. The Transaction Committee is currently comprised of Ms. Deptula (Chair), Dr. Russell, and Messrs. Santini and Sulat, each of whom is "independent" as such term is defined in the listing standards of NASDAQ. The Transaction Committee conducted three formal meetings during the year ended December 31, 2018.

Financing Committee

Our Board has established a Financing Committee to, on an ad hoc basis, oversee the execution and consummation of potential financing transactions involving AMAG, including delegation by the Board to approve certain financing parameters in connection with such fundraising activities as well as other responsibilities as may be delegated to the Financing Committee by the Board from time to time. In 2018, the Financing Committee was comprised of Messrs. Scoon and Sulat, each of whom is "independent" as such term is defined in the listing standards of NASDAQ. The Financing Committee did not meet during the year ended December 31, 2018.

In addition, our Board may, as needed or advisable, form temporary or ad hoc committees to oversee, identify, evaluate or negotiate a specific issue or opportunity and to make recommendations to the full Board.

REPORT OF THE AUDIT COMMITTEE¹

The Audit Committee has reviewed and discussed our audited financial statements for the year ended December 31, 2018 with our management. The Audit Committee has discussed with PricewaterhouseCoopers LLP, our independent registered public accounting firm, the matters required to be discussed by Auditing Standard No. 1301, Communications with Audit Committees, as adopted by the Public Company Accounting Oversight Board ("PCAOB").

The Audit Committee has met with PricewaterhouseCoopers LLP, with and without management present, to discuss the results of its examinations, its evaluation of our internal control over financial reporting, and the overall quality of our financial reporting. The Audit Committee has also received the written disclosures and the letter from PricewaterhouseCoopers LLP required by applicable requirements of the

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PCAOB regarding the independent accountant's communications with the Audit Committee concerning independence. The Audit Committee has discussed with PricewaterhouseCoopers LLP that firm's independence from management and AMAG and considered the compatibility of the firm's provision of non-audit services with maintaining the firm's independence and found the provision of such services to be compatible with the firm's independence.

Based on the reviews and discussions referred to above, the Audit Committee concluded that it would be reasonable to recommend, and on that basis did unanimously recommend, to the Board (and the Board has approved) that the audited financial statements be included in AMAG's Annual Report on Form 10-K for the year ended December 31, 2018 for filing with the SEC.

Respectfully submitted by the Audit Committee of the Board of Directors of AMAG Pharmaceuticals, Inc.,

Davey S. Scoon, Chair

James R. Sulat

Barbara Deptula

The material in this report is not "soliciting material," is furnished to, but not deemed "filed" with, the SEC and is not deemed to be incorporated by reference in any filing of AMAG under the Securities Act of 1933 (as amended, the ¹ "Securities Act") or the Exchange Act, other than AMAG's Annual Report on Form 10-K, where it shall be deemed to be "furnished," whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

STOCKHOLDER COMMUNICATION WITH THE BOARD OF DIRECTORS

Our Board believes it is important for stockholders to be able to send communications to the members of our Board. Accordingly, any stockholder who desires to communicate with our directors, individually or as a group, may do so by e-mailing the party or parties to whom the communication is intended at contactus@amagpharma.com or by writing to the party or parties for whom the communication is intended, to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Secretary. Our Secretary will then deliver any communication to the appropriate party or parties.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

Our Compensation Committee is currently comprised of Drs. Russell (Chair) and Fallon and Mr. Santini. No one who served as a member of the Compensation Committee during 2018 is or has been an officer or employee of AMAG or had any relationship that is required to be disclosed as a transaction with a related party. During the year ended December 31, 2018, none of our executive officers served as a member of the board of directors or compensation committee of another company (or other entity) that has one or more of its executive officers serving on our Board or our Compensation Committee.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

In accordance with its charter and AMAG's written related person transactions policy contained in our Corporate Governance Guidelines, discussed below, the Audit Committee reviews, approves and ratifies any related person transaction and monitors compliance with and periodically reviews the related person transactions policy. The term "related person transaction" refers to any transaction required to be disclosed in our filings with the SEC pursuant to Item 404 of Regulation S-K.

In considering any related person transaction, the Audit Committee considers the facts and circumstances regarding such transaction, including, among other things, the amounts involved, the relationship of the related person (including those persons identified in the instructions to Item 404(a) of Regulation S-K) with our company and the terms that would be available in a similar transaction with an unaffiliated third-party. The Audit Committee also considers its fiduciary duties, our obligations under applicable securities law, including disclosure obligations and director independence rules, and other applicable law in evaluating any related person transaction. The Audit Committee reports its determination regarding any related person transaction to our full Board.

In addition, our Board has adopted a written related person transactions policy, which provides that any related person transaction shall be consummated or shall continue only if:

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The Audit Committee approves or ratifies such transaction in accordance with our related person transactions policy and if the transaction is on terms comparable to those that could be obtained in arm's length dealings with an unrelated third person;

¶The transaction is approved by the majority of the disinterested members of the Board; or

¶If the transaction involves compensation, it is approved by the Compensation Committee or the Board.

Under our related person transactions policy, transactions between a related person and AMAG that are available to all employees generally and transactions with a related person in a given fiscal year that involve an aggregate of less than \$10,000 must be reported to the Board but do not require approval. In addition, related person transactions should be submitted to the Audit Committee for approval or preliminarily entered into by management subject to ratification by the Audit Committee, provided, that, if such ratification shall not be forthcoming, management must make all reasonable efforts to cancel or annul such transaction. In determining whether to approve a related person transaction, consideration is given to whether approval thereof would affect the independent status of any current member of our Board. If approval of a transaction would cause less than a majority of our Board to be independent, such transaction will not be approved.

No related person transactions were brought to the attention of the Audit Committee for consideration in 2018.

CODE OF ETHICS

Our Board has adopted a code of ethics that applies to our officers, directors and employees. We have posted the text of our code of ethics on our website at www.amagpharma.com in the "Investors" section. In addition, and in accordance with Item 5.05 of Form 8-K, when changes are made to the provisions of our code of ethics enumerated in Item 406(b) of Regulation S-K, we intend to disclose within four business days, on our website (or in any other medium required by law or NASDAQ): (a) the date and nature of any such amendment to our code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and (b) the nature of any such waiver, including an implicit waiver, from a provision of our code of ethics that is granted to one of these specified officers, the name of such person who is granted the waiver, and the date of the waiver.

DIRECTOR COMPENSATION

Overview

We seek to attract exceptional talent to serve on the Board and, therefore, our policy is to compensate directors competitively relative to comparable companies. In addition, our Corporate Governance Guidelines provide that directors should be incentivized to focus on long-term stockholder value. The Board believes that including equity as part of director compensation helps align the interests of directors with those of our stockholders. Accordingly, director compensation is comprised of a mix of cash and equity compensation. The Board also believes that it is appropriate for the Chair of the Board and the Chair of each standing committee of the Board to receive additional compensation for the additional workload and time commitment required for Board members who serve in such capacities.

Non-Employee Director Compensation Policy

Our Non-Employee Director Compensation Policy ("Director Compensation Policy") applies to each director of AMAG who is not an employee or affiliate of AMAG. Under its charter, the Compensation Committee is charged with periodically reviewing and making recommendations to the Board with respect to director compensation. In addition, our Corporate Governance Guidelines provide that management and/or the Compensation Committee shall, from time to time, present a report to the Board comparing our director compensation to that of comparable peer companies. Accordingly, the Compensation Committee will, from time to time, retain an independent compensation consulting firm to conduct a comprehensive independent review of our overall non-employee director compensation practices relative to our peer group based on data collected from our peer companies' proxy statements. The peer group is generally comprised of public biotechnology companies that are comparable in terms of the number of employees, revenue and market capitalization at that time. In April 2018, based primarily on the recommendation of the Compensation Committee and an assessment by the independent compensation consulting firm, Radford, a part of Aon, a business unit of Aon plc ("Radford"), the Board amended our Director Compensation Policy, effective as of July

1, 2018, to better align the Board's cash compensation with the Company's peer group. The amendment included an increase in the annual retainer fees for members of the Board, not including the Chair, from \$45,000 to \$50,000. In addition, the Compensation Committee has determined that it is in the best interest of the Company and its stockholders to amend our Director Compensation Policy to provide that the aggregate amount of compensation, including both equity compensation and cash compensation, that may be paid to any non-employee director in a calendar year shall not exceed

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\$750,000 for the first year of service and \$500,000 for each year of service thereafter. Such compensation limits will also be specified in our 2019 Equity Incentive Plan and subject to approval by our stockholders at our annual meeting. Based on the recommendation of the Compensation Committee, in April 2019, the Board amended our Director Compensation Policy, effective April 10, 2019, to reflect such director compensation limits.

The following is a summary of compensation under our current Director Compensation Policy:

Equity Grant Upon Initial Appointment or Election as a Director

Under the Director Compensation Policy, each new non-employee director, on the date of his or her initial appointment or election to the Board, receives the following two equity awards under our shareholder approved equity incentive plan then in effect:

Appointment Grant: an award of a non-qualified stock option to purchase 6,000 shares of our common stock, with such option to vest in equal monthly installments over a period of two years from the date of his or her election to the Board, provided such non-employee director continues to serve as a member of the Board; and

Pro-rated Annual Grant: an equity grant of non-qualified stock options and RSUs on the date of his or her appointment or election as described below under the heading “Annual Equity Grant”; provided, that the amount of options and RSUs will be pro-rated based on the number of expected months of service before the next annual meeting of stockholders, and provided further that the awards will vest in equal monthly installments beginning on the first day of the first full month following his or her appointment or election and continuing on the first day of each month thereafter through the first day of the month in which the next annual meeting of stockholders is to be held so long as the director continues to serve as a member of the Board.

Annual Equity Grant

At the first meeting of the Board following the annual meeting of stockholders, each non-employee director, including the Chair, receives an equity grant with a target value of approximately \$175,000, with 50% of such value to be delivered in the form of options and the remaining 50% of such value to be delivered in the form of RSUs. These annual equity grants vest in twelve equal monthly installments beginning on the first day of the first full month following the annual meeting of stockholders and continuing on the first day of each of the following eleven months thereafter, so long as the director continues to serve as a member of the Board. In addition, the Director Compensation Policy provides that the delivery of any vested shares of common stock underlying the foregoing RSUs is deferred until the earlier of (a) the first anniversary of the date of grant and (b) the date of the director’s separation from service.

Early Termination of Options or RSUs Upon Termination of Service

If a non-employee director ceases to be a member of the Board for any reason, any then vested and unexercised options granted to such non-employee director may be exercised by the departing director (or, in the case of the director’s death or disability, by the director’s personal representative, or the director’s survivors) within three years after the date the director ceases to be a member of the Board and in no event later than the expiration date of the option. In addition, all then vested and undelivered shares underlying any RSUs held by such director shall be delivered to him or her (or, in the case of the director’s death or disability, to the director’s personal representative, or the director’s survivors) as of the date he or she ceases to be a member of the Board. If a non-employee director ceases to be a member of the Board for any reason, or otherwise ceases to continue a business relationship with AMAG, any unvested options and RSUs are immediately terminated and forfeited.

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Retainer and Per Meeting Fees

The annual Board retainer fees under the Director Compensation Policy are payable in four equal quarterly installments, to each non-employee director for membership on our Board and for membership on each of the Board's standing committees. The annual Board and committee retainer fees are included in the table below, along with the per meeting fees that our non-employee directors are entitled to receive for ad hoc committee attendance.

Membership	Retainer Fees (\$)	Per Meeting Fees (\$)
Board		
Non-chair member	50,000	(1) N/A
Chair	95,000	N/A
Audit Committee		
Non-chair member	12,500	N/A
Chair	25,000	N/A
Compensation Committee		
Non-chair member	10,000	N/A
Chair	20,000	N/A
Governance and Risk Committee		
Non-chair member	7,500	N/A
Chair	15,000	N/A
Ad Hoc Committees		
Non-chair member	N/A	1,000
Chair	N/A	2,000

(1) Annual retainer of \$45,000 increased to \$50,000 effective July 1, 2018.

Under the Director Compensation Policy, the Board has reserved the right to institute a per meeting fee for each Board or committee meeting which is meaningfully in excess of the regularly scheduled meetings (a "Special Meeting"), including a per meeting fee of \$1,000 for each Special Meeting of the Board and a per meeting fee of \$500 for each meeting which is meaningfully in excess of the regularly scheduled meetings of the Audit, Compensation, and Governance and Risk Committees attended by such non-employee director. It is expected that Special Meetings of the Board and the committees may be called when necessary to address material matters faced by the Company outside of the ordinary course of business. No such payments were made during 2018.

Expenses

Upon presentation of documentation of such expenses reasonably satisfactory to the Company, each non-employee director is reimbursed for his or her reasonable out-of-pocket business expenses incurred in connection with attending meetings of the Board, committees thereof or in connection with other Board-related business.

Non-Employee Directors' Deferred Compensation Program

In April 2019, we implemented a Non-Employee Directors' Deferred Compensation Program to offer our non-employee directors the ability to defer the receipt of any RSUs granted to them under our equity incentive plan. In advance of an award of RSUs and in compliance with the program's requirements, a non-employee director may elect to defer the receipt of all of his or her RSUs until the earliest of (i) the date such non-employee director ceases to serve as a member of our board of directors or (ii) the consummation of a sale event (such earliest date, the "Payment Event"). Upon the vesting of the RSUs, any amounts that would otherwise have been paid in shares of Company common stock will be converted into deferred stock units ("DSUs") on a one-to-one basis and credited to the non-employee director's deferred account. The DSUs will be paid in shares of our common stock on a one-to-one basis in a single lump sum (and will cease to be held in the non-employee director's deferred account) as soon as practicable following the Payment Event.

Indemnification and Insurance

We provide standard indemnification agreements and director and officer insurance for all directors.

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Summary of Director Compensation for Fiscal 2018

The following table summarizes the compensation paid to or earned by our non-employee directors during the year ended December 31, 2018.

Name(1)	Fees Earned or Paid in Cash (\$)(2)	Stock Awards (\$)(3)	Option Awards (\$)(3)	Total (\$)
Barbara Deptula(4)	66,000	87,482	87,499	240,981
John A. Fallon, M.D.(5)	72,500	87,482	87,499	247,481
Robert J. Perez(6)	55,000	87,482	87,499	229,981
Lesley Russell, MB.Ch.B., MRCP(7)	70,500	87,482	87,499	245,481
Gino Santini(8)	108,000	87,482	87,499	282,981
Davey S. Scoon(9)	80,000	87,482	87,499	254,981
James Sulat(10)	63,000	87,482	87,499	237,981

- (1) Mr. Heiden, who is also our employee, received no additional compensation for his service on our Board and is therefore not included in this table.
- (2) Represents the aggregate dollar amount of fees earned or paid in cash for services performed in 2018 as a director, including annual retainer fees, committee fees and per meeting fees.
Amounts shown do not reflect compensation actually received by the listed directors but represent the aggregate grant date fair value of equity awards, which consist of RSUs and stock option awards granted to our non-employee directors calculated in accordance with current accounting guidance for stock-based compensation, disregarding adjustments for forfeiture assumptions. The assumptions used to value the stock option awards are set forth in Note M to our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019. The reported value of the RSUs awarded in 2018 was calculated by multiplying the closing market price of a share of our common stock on the grant date by the number of RSUs granted.
- (3) As of December 31, 2018, Ms. Deptula held outstanding stock options to purchase 46,665 shares and RSUs covering 3,578 shares of our common stock.
- (4) As of December 31, 2018, Dr. Fallon held outstanding stock options to purchase 42,549 shares and RSUs covering 3,578 shares of our common stock.
- (5) As of December 31, 2018, Mr. Perez held outstanding stock options to purchase 64,215 shares and RSUs covering 3,578 shares of our common stock.
- (6) As of December 31, 2018, Dr. Russell held outstanding stock options to purchase 56,348 shares and RSUs covering 3,578 shares of our common stock.
- (7) As of December 31, 2018, Mr. Santini held outstanding stock options to purchase 56,165 shares and RSUs covering 3,578 shares of our common stock.
- (8) As of December 31, 2018, Mr. Scoon held outstanding stock options to purchase 54,215 shares and RSUs covering 3,578 shares of our common stock.
- (9) As of December 31, 2018, Mr. Sulat held outstanding stock options to purchase 44,132 shares and RSUs covering 3,578 shares of our common stock.
- (10)

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Director Stock Ownership Guidelines

The Board believes that it is important that directors be incentivized to focus on long-term stockholder value to ensure that the Board's interests are aligned with those of our stockholders and as such maintains stock ownership guidelines to further align the interests of our non-employee directors with the interests of our stockholders and to promote our commitment to sound corporate governance.

Our non-employee director stock ownership guidelines require all non-employee directors to hold shares of our common stock with a value equal to three times the amount of the annual cash retainer fee paid to non-employee directors for service on the Board, excluding additional committee retainer fees and any per meeting fees, if any. These ownership guidelines are initially calculated using the base annual retainer fee for service as a non-employee director as of the date the person first became subject to the guidelines as a non-employee director and are re-calculated and reviewed annually on the date of the annual meeting of stockholders based on the applicable annual Board retainer fee in effect on such calculation date. For purposes of this calculation, the value of a share is measured on the date of our annual meeting of stockholders each year based on the average closing price over the 30 days preceding the date of calculation. Currently, all non-employee directors have met their ownership requirements. Non-employee directors are required to achieve the applicable level of ownership within five years of the later of the date the guidelines were adopted and the date the person first became a non-employee director. In the event that a non-employee director does not meet the foregoing stock ownership guidelines, such non-employee director is prohibited from selling any stock acquired through vesting of RSUs or similar full-value awards or upon the exercise of stock options, except to pay for applicable taxes or the exercise price, and must use the entire net after tax amount of his or her base annual retainer fee, excluding additional committee retainer and meeting fees, if any, to purchase shares of Company common stock until the director satisfies the requirements.

Shares that count toward satisfaction of the guidelines include shares owned outright by the director or his or her immediate family members residing in the same household and shares held in trust for the benefit of the director or his or her family. Unexercised and/or unvested equity awards do not count toward satisfaction of the guidelines.

Our non-employee director stock ownership guidelines may be waived, at the discretion of the Governance and Risk Committee, for directors joining the Board from government, academia, or similar professions. The guidelines may also be waived at the discretion of the Governance and Risk Committee if compliance would create undue hardship or prevent a director from complying with a court order, as in the case of a divorce settlement. It is expected that these instances will be rare.

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PROPOSAL 2: APPROVAL OF THE AMAG PHARMACEUTICALS, INC. 2019 EQUITY INCENTIVE PLAN Overview

Our Board believes that stock options and other stock-based incentive awards can play an important role in our success by encouraging and enabling our employees, officers, non-employee directors and consultants upon whose judgment, initiative and efforts we largely depend for the successful conduct of our business to acquire an equity interest in AMAG. Our Board anticipates that providing such persons with a direct stake in AMAG will assure a closer identification of the interests of such individuals with those of AMAG and our stockholders, thereby stimulating their efforts on our behalf and strengthening their desire to remain with AMAG.

On April 10, 2019, our Board approved the AMAG Pharmaceuticals, Inc. 2019 Plan, subject to stockholder approval (the “2019 Equity Incentive Plan”) to replace and supplement our existing Fourth Amended and Restated 2007 Equity Incentive Plan (the “2007 Equity Incentive Plan”). The 2019 Equity Incentive Plan is intended as the successor to the 2007 Equity Incentive Plan. As of the date the 2019 Equity Incentive Plan is adopted by our stockholders (the “Effective Date”), no additional awards will be granted under the 2007 Equity Incentive Plan. The number of shares available for future grants under the 2019 Equity Incentive Plan will consist of the sum of (i) the number of shares remaining available for issuance under the 2007 Equity Incentive Plan as of the Effective Date and (ii) an additional 2,160,000 shares. All outstanding awards granted under the 2007 Equity Incentive Plan will remain subject to the terms of the 2007 Equity Incentive Plan. Any shares subject to outstanding awards granted under the 2007 Equity Incentive Plan that expire or terminate for any reason prior to exercise will be added to the total number of shares available for issuance under the 2019 Equity Incentive Plan. All awards granted on or after the Effective Date will be subject to the terms of the 2019 Equity Incentive Plan.

The 2019 Equity Incentive Plan was designed to ensure that we can continue to grant stock options, RSUs and other awards to our officers, employees, non-employee directors and consultants and to such persons at levels determined to be appropriate by the Compensation Committee. If the proposed 2019 Equity Incentive Plan is not approved by our stockholders, we currently anticipate that we will exhaust all the shares available for issuance under our 2007 Equity Incentive Plan by the end of 2019 and such shares may be exhausted sooner if we increase the size of our organization, including increases in headcount, which may be necessary to support our business growth, particularly as we expand our development pipeline. The inability to make competitive equity awards to attract and retain talented employees in a highly competitive market could have an adverse impact on our business. A copy of the proposed 2019 Equity Incentive Plan is attached to this Proxy Statement as Appendix A and is incorporated herein by reference. As of December 31, 2018, we have granted options, RSUs and PSUs covering 13,500,447 shares of common stock under our 2007 Equity Incentive Plan, of which 4,939,317 stock options, 1,458,228 RSUs and 37,000 PSUs have expired or terminated, and of which 1,645,794 options have been exercised and 1,597,181 shares of common stock were issued upon settlement of vested RSUs. Therefore, the actual number of options, RSUs and PSUs outstanding under this plan as of December 31, 2018 was 2,781,786, 813,141 and 228,000, respectively, and there were 2,548,513 shares of common stock available for grant under the 2007 Equity Incentive Plan, not including any shares that might in the future be added back to the shares available for issuance under the 2007 Equity Incentive Plan as a result of forfeiture, cancellation or other termination (other than by exercise).

As of the Record Date, we have granted options, RSUs and PSUs covering 14,866,849 shares of common stock under our 2007 Equity Incentive Plan, of which 5,154,198 stock options, 1,542,391 RSUs and 52,000 PSUs have expired or terminated, and of which 1,647,819 options have been exercised and 1,907,058 shares of common stock were issued upon settlement of vested RSUs. In addition, as of the Record Date, we have granted options and RSUs covering 2,474,261 shares of common stock under the Lumara Health Inc. Amended and Restated 2013 Incentive Compensation Plan (the “2013 Lumara Health Equity Incentive Plan”) and pursuant to awards granted outside of such plans to new hires as inducement grants made in reliance on NASDAQ Listing Rule 5635(c)(4) (“Inducement Awards”), of which 690,226 stock options and 143,735 RSUs have expired or terminated and of which 210,312 options have been exercised and 385,233 shares of common stock were issued upon settlement of vested RSUs. Therefore, the actual number of options, RSUs and PSUs outstanding under the 2007 Plan, the 2013 Lumara Health Equity Incentive Plan and as Inducement Awards as of the Record Date was 3,888,393, 1,263,018 and 456,727, respectively. In

addition, there were 665,706 shares of common stock available for grant under the 2007 Equity Incentive Plan, not including any shares that might in the future be added back to the shares available for issuance under the 2007 Equity Incentive Plan as a result of forfeiture, cancellation or other termination (other than by exercise) and 1,355 shares of common stock available for grant under the 2013 Lumara Health Equity Incentive Plan. As of the Record Date, pursuant to the 2007 Plan, the 2013 Lumara Health Equity Incentive Plan and awards issued as Inducement Awards, the weighted average exercise price of outstanding options was 24.04 and the weighted average remaining term of outstanding options was 6.97 years. A total of 33,746,828 shares of our common stock were outstanding as of the Record Date.

Proposal 2 seeks stockholder approval of the 2019 Equity Incentive Plan.

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SUMMARY OF MATERIAL FEATURES OF THE 2019 EQUITY INCENTIVE PLAN

While our Board is aware of and has considered the potential dilutive effect of additional awards and option grants, it also recognizes the competitive necessity and benefits of equity compensation and believes that the 2019 Equity Incentive Plan, including the increase in available shares contemplated by the 2019 Equity Incentive Plan, is consistent with our executive compensation philosophy and the compensatory practices of other biopharmaceutical companies in our peer group. The exercise price of any option grants under the 2019 Equity Incentive Plan will be at or above the fair market value of our common stock on the close of business on the date such option is granted thereby aligning the interests of stockholders and our employees to create increased stockholder value over time. Furthermore, since our Board typically grants awards to employees that vest over a three or four year period, employees must generally remain with AMAG in order to realize the potential benefits of their equity awards.

The following summary of certain major features of the 2019 Equity Incentive Plan is subject to the specific provisions contained in the full text of the proposed 2019 Equity Incentive Plan set forth in Appendix A to this Proxy Statement.

The following material features of the 2019 Equity Incentive Plan are designed to protect our stockholders' interests and to reflect corporate governance best practices including:

Maximum Number of Shares. The maximum number of shares of our common stock to be issued under the 2019 Equity Incentive Plan is the sum of (i) the number of shares remaining available for issuance under the 2007 Equity Incentive Plan as of the Effective Date and (ii) an additional 2,161,000 shares (subject to certain adjustments under the 2019 Equity Incentive Plan). For purposes of this limitation, the shares of common stock underlying any awards under the 2019 Equity Incentive Plan as well as shares of common stock underlying any awards under our 2007 Equity Incentive Plan that are forfeited, canceled or otherwise terminated (other than by exercise) on or after the Effective Date shall be added back to the shares of common stock available for issuance under the 2019 Equity Incentive Plan.

Flexibility in designing equity compensation scheme. The 2019 Equity Incentive Plan allows us to provide a broad array of equity incentives, including awards of stock options (both incentive and non-qualified options), stock appreciation rights, restricted stock, RSUs, unrestricted stock, PSUs, dividend equivalent rights, and cash-based awards.

Share counting provisions. Grants of "full value" awards are deemed for purposes of determining the number of shares available for grants under the 2019 Equity Incentive Plan as an award for 1.7 shares for each share of common stock subject to the award (the "Fungible Share Ratio"). Grants of stock option or stock appreciation rights are deemed to be an award of one share for each share of common stock subject to the award. This ratio helps to ensure that management and our Compensation Committee are using the share reserve effectively and with regard to the value of each type of equity award.

No Liberal Share Recycling. Shares tendered or held back for taxes will not be added back to the reserved pool under the 2019 Equity Incentive Plan. Upon the exercise of a stock appreciation right, the full number of shares underlying the award will be charged to the reserved pool. Additionally, shares reacquired by AMAG on the open market or otherwise using cash proceeds of option exercises will not be added to the reserved pool.

Types of Awards. The award of stock options (both incentive and non-qualified options), stock appreciation rights, restricted stock, RSUs, unrestricted stock, PSUs, dividend equivalent rights and cash-based awards is permitted.

Repricing is not allowed. The exercise price of stock options and stock appreciation rights will not be decreased in any manner without stockholder approval nor may stock options or stock appreciation rights be canceled in exchange for a cash payment.

Stockholder approval is required for additional shares. The 2019 Equity Incentive Plan does not contain an "evergreen" provision. Thus, any increase to the maximum share reserve in the 2019 Equity Incentive Plan is subject to approval by our stockholders allowing our stockholders the ability to have a say on our equity compensation programs.

Broad-based eligibility for equity awards. We grant equity awards to a large portion of our employees. By doing so, we tie our employees' interests with stockholder interests and motivate our employees to act as owners of the business.

Maximum awards to non-employee directors. The 2019 Equity Incentive Plan limits the value of all awards, in combination with cash paid, to our non-employee directors such that no non-employee director shall receive total compensation greater than \$750,000 for the first year of service and \$500,000 for each year of service thereafter.

Clawback Policy. Awards to certain officers will be subject to clawback in the event we are required to prepare an accounting restatement due to the material noncompliance with financial statement requirements.

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• Ownership Guidelines. Awards under the 2019 Equity Incentive Plan will assist directors and executives in attaining the stock ownership requirements specified in our stock ownership guidelines.

• No Current Dividends Paid for Unvested Awards. In no event will any dividends or dividend equivalents be paid with respect to an award until the award has vested.

• Plan Expiration. The 2019 Equity Incentive Plan will expire on May 16, 2029.

Based solely on the closing price of our common stock as reported by NASDAQ on March 29, 2019, the Record Date, and the maximum number of shares that would have been available for awards under the 2019 Equity Incentive Plan as of such date had it been in effect as of such date, the maximum aggregate market value of the common stock that could potentially be issued under the 2019 Equity Incentive Plan is \$36,407,973. The shares of common stock underlying any awards under the 2019 Equity Incentive Plan or the 2007 Equity Incentive Plan that are forfeited, canceled or are otherwise terminated (other than by exercise) are added back to the shares of common stock available for issuance under the 2019 Equity Incentive Plan. The following shares will not be added back to the shares authorized for issuance under the 2019 Equity Incentive Plan: shares tendered or held back upon exercise of an option or settlement of an award to cover the exercise price or tax withholding, and shares subject to a stock appreciation right that are not issued in connection with the stock settlement of the stock appreciation right upon exercise.

Rationale for Share Increase

We currently anticipate that we will exhaust all the shares available for issuance under our 2007 Equity Incentive Plan by the end of 2019 if the 2019 Equity Incentive Plan is not approved (and such shares may be exhausted sooner if we increase the size of our organization, including increases in headcount). Our equity incentive program is broad-based and equity incentive awards are an important component of our executive and non-executive employees' compensation. Our Compensation Committee and Board believe we must continue to offer a competitive equity compensation program in order to attract, retain and motivate the talented and qualified employees necessary for our continued growth and success in an increasingly competitive market environment. The share increase contemplated by the 2019 Equity Incentive Plan is critical to attract and retain talented employees to support these and any future efforts in order to build stockholder value.

We manage our long-term stockholder dilution by limiting the number of equity incentive awards granted annually. The Compensation Committee carefully monitors our annual net burn rate, total dilution, and equity expense in order to maximize stockholder value by granting only the appropriate number of equity incentive awards that it believes is necessary to attract, reward, and retain employees. Our compensation philosophy reflects broad-based eligibility for equity incentive awards, and we grant awards to substantially all of our employees based upon level, performance and contribution. By doing so, we link employee interests with stockholder interests throughout the organization and motivate our employees to act as owners of the business.

Other Compensation Policies

Awards made pursuant to our equity incentive plans and programs are in some cases subject to restrictions and obligations outlined in our Policy for Recoupment of Incentive Compensation as well as our stock ownership guidelines, which are discussed below in further detail under the heading "Executive Officers and Compensation-Compensation Recoupment/Clawback" and "Executive Officers and Compensation-Executive Stock Ownership Guidelines," respectively. Our non-employee director stock ownership guidelines are discussed above in further detail under the heading "Director Compensation-Director Stock Ownership Guidelines."

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Burn Rate

The following table sets forth information regarding historical awards granted and earned under our 2007 Equity Incentive Plan for the 2016 through 2018 period, and the corresponding burn rate, which is defined as the number of shares subject to certain equity-based awards granted in a year divided by the weighted average common shares outstanding for that year, for each of the last three fiscal years:

	2018		2017		2016	
RSUs granted	679,387	(1)(2)	741,777	(1)(2)	799,458	(1)(2)
Stock options granted	1,184,880	(1)	1,145,992	(1)	784,048	(1)
PSUs granted	137,500	(3)	127,500	(3)	—	
Total Adjusted Grants (excluding PSUs)	1,864,267		1,887,769		1,583,506	
Weighted average common shares outstanding during the fiscal year	34,394,488		34,906,633		34,345,926	
Annual Burn Rate	5.42	%	5.41	%	4.61	%
Three-Year Average Burn Rate			5.15	%		

The RSUs and stock options granted in 2018 included 243,327 shares that were forfeited in 2018 without issuance upon termination of employment, resulting in 1,758,440 of the 2,001,767 awards granted in 2018, outstanding at December 31, 2018. The RSUs and stock options granted in 2017 include 237,775 shares that were forfeited in (1)2017 without issuance upon termination of employment, resulting in 1,729,544, of the 1,967,319 awards granted in 2017, outstanding at December 31, 2017. In addition, the RSUs and stock options granted in 2016 include 130,345 shares that were forfeited in 2016 without issuance upon termination of employment, resulting in 1,379,321, of the 1,509,666 awards granted in 2016, outstanding at December 31, 2016.

The RSUs granted in 2018 do not include 137,500 PSUs granted in 2018. The RSUs granted in 2017 include 47,950 shares with respect to performance/market-based RSU grants awarded in August 2014 (the “2014 (2)Performance Stock Awards”), which were earned in 2017 and do not include 127,500 PSUs granted in 2017. The RSUs granted in 2016 include 73,840 shares with respect to our 2014 Performance Stock Awards, which were earned in 2016.

PSUs granted during 2018 and 2017 are included in the above table for informational purposes only and are not (3)included in the “Total Adjusted Grants” or the calculation of the annual burn rate for 2018 or 2017. These awards will be included in the annual burn rate calculation when they are earned.

If the 2019 Equity Incentive Plan is approved by stockholders, we will have approximately 2,826,706 shares available for grant after the Annual Meeting, which is based on 665,706 shares available for grant under the 2007 Equity Incentive Plan at March 29, 2019 and the 2,161,000 new shares available for issuance under the 2019 Equity Incentive Plan. Our Compensation Committee determined the size of the requested share increase based on projected equity awards to anticipated new hires, projected annual equity awards to existing employees, and an assessment of the magnitude of increase that our stockholders would likely find acceptable. We anticipate that if our request to increase the share reserve is approved by stockholders, it will be sufficient to provide equity incentives to attract, retain, and motivate employees through early 2020.

Summary of the 2019 Equity Incentive Plan

The following is a summary of certain significant features of the 2019 Equity Incentive Plan. This summary is subject to the specific provisions contained in the full text of the proposed 2019 Equity Incentive Plan set forth in Appendix A to this Proxy Statement.

Plan Administration. The 2019 Equity Incentive Plan is administered by the Compensation Committee. The Compensation Committee has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of the 2019 Equity Incentive Plan. The Compensation Committee may delegate to the Chief Executive Officer the authority to grant stock options and/or restricted stock

units to employees who are not subject to the reporting and other provisions of Section 16 of the Exchange Act and not subject to Section 162(m) of the Code, subject to certain limitations and guidelines. Although consultants will be eligible to participate in the 2019 Equity Incentive Plan, no currently-engaged consultants are expected to be provided with the opportunity to be granted awards thereunder.

Eligibility. Persons eligible to participate in the 2019 Equity Incentive Plan will be those full- or part-time officers, employees, non-employee directors and consultants of AMAG and our subsidiaries or affiliates as selected from time to time by the Compensation Committee in its discretion. As of the Record Date, approximately 479 individuals were eligible to

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participate in the 2019 Equity Incentive Plan, which included seven executive officers, 465 employees who are not officers, and seven non-employee directors.

Effect of Awards. For purposes of determining the number of shares of common stock available for issuance under the 2019 Equity Incentive Plan, the grant of any “full value” award, such as a restricted stock award, RSU or PSU will be counted as 1.7 shares for each share of common stock actually subject to the award. The grant of any stock option or stock appreciation right will be counted for this purpose as one share from each share of common stock actually subject to the award.

Maximum Awards to Non-Employee Directors. The 2019 Equity Incentive Plan limits the value of all awards, in combination with cash paid, to our non-employee directors such that no non-employee director shall receive total compensation greater than \$750,000 for the first year of service and \$500,000 for each year of service thereafter.

Stock Options. The 2019 Equity Incentive Plan permits the granting of (1) options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and (2) options that do not so qualify. Options granted under the 2019 Equity Incentive Plan will be non-qualified options if they fail to qualify as incentive options or exceed the annual limit on incentive stock options. Incentive stock options may only be granted to employees of AMAG and our subsidiaries. Non-qualified options may be granted to any persons eligible to receive incentive options and to non-employee directors, and consultants. The exercise price of each option will be determined by the Compensation Committee but may not be less than 100% of the fair market value of the common stock on the date of grant. Fair market value for this purpose will be the closing price of the shares of common stock on NASDAQ on the date of grant. The exercise price of an option may not be reduced after the date of the option grant, other than to appropriately reflect changes in our capital structure.

The term of each option will be fixed by the Compensation Committee and may not exceed ten years from the date of grant. The Compensation Committee will determine at what time or times each option may be exercised. Options may be made exercisable in installments and the exercisability of options may be accelerated by the Compensation Committee. In general, unless otherwise permitted by the Compensation Committee, no option granted under the 2019 Equity Incentive Plan is transferable by the optionee other than by will or by the laws of descent and distribution or pursuant to a qualified domestic relations order, and options may be exercised during the optionee’s lifetime only by the optionee, or by the optionee’s legal representative or guardian in the case of the optionee’s incapacity. In no event may options be transferred for value.

Upon exercise of options, the option exercise price must be paid in full either in cash, by certified or bank check or other instrument acceptable to the Compensation Committee or by delivery (or attestation to the ownership) of shares of common stock that are beneficially owned by the optionee for at least six months or were purchased in the open market. Subject to applicable law, the exercise price may also be delivered to AMAG by a broker pursuant to irrevocable instructions to the broker from the optionee. In addition, the Compensation Committee may permit non-qualified options to be exercised using a net exercise feature which reduces the number of shares issued to the optionee by the number of shares with a fair market value equal to the exercise price.

To qualify as incentive options, options must meet additional federal tax requirements, including a \$100,000 limit on the value of shares subject to incentive options that first become exercisable by a participant in any one calendar year.

Stock Appreciation Rights. The Compensation Committee may award stock appreciation rights, subject to such conditions and restrictions as the Compensation Committee may determine. Stock appreciation rights entitle the recipient to shares of common stock equal to the value of the appreciation in the stock price over the exercise price.

The exercise price may not be less than the fair market value of the common stock on the date of grant. The term of a stock appreciation right shall be determined by the Compensation Committee, but may not exceed ten years.

Restricted Stock. The Compensation Committee may award shares of common stock to participants subject to such conditions and restrictions as the Compensation Committee may determine. These conditions and restrictions may include the achievement of certain performance criteria, as summarized below, and/or continued employment with us through a specified restricted period. A holder of restricted stock shall be treated as a stockholder for all purposes (including with respect to voting rights and the right to receive dividends); provided that in no event shall any dividends be paid until the related restricted stock has vested.

Restricted Stock Units. The Compensation Committee may award RSUs to any participant. RSUs are ultimately payable in the form of shares of common stock and may be subject to such conditions and restrictions as the Compensation Committee may determine. These conditions and restrictions may include the achievement of certain performance criteria, as summarized below, and/or continued employment with AMAG through a specified vesting period.

Unrestricted Stock Awards. The Compensation Committee may also grant shares of common stock which are free from any restrictions under the 2019 Equity Incentive Plan. Unrestricted stock may be granted to any participant in recognition of past services or other valid consideration and may be issued in lieu of cash compensation due to such participant.

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Performance Share Awards. The Compensation Committee may grant performance share awards to any participant which entitle the recipient to receive shares of common stock upon the achievement of certain performance criteria and such other conditions as the Compensation Committee shall determine.

Dividend Equivalent Rights. The Compensation Committee may grant dividend equivalent rights to participants which entitle the recipient to receive credits for dividends that would be paid if the recipient had held specified shares of common stock. Dividend equivalent rights shall only be paid upon vesting and, if granted as a component of another award subject to vesting, may be paid only if the related award becomes vested.

Cash-Based Awards. The Compensation Committee may grant cash bonuses under the 2019 Equity Incentive Plan to participants. The cash bonuses may be subject to the achievement of certain performance criteria.

Change of Control Provisions. The 2019 Equity Incentive Plan provides that upon the effectiveness of a Sale Event, except as otherwise provided by the Compensation Committee in the award agreement, the parties to the Sale Event may agree that awards shall be assumed or continued by the successor entity. In the event awards are not assumed or continued by the successor entity, upon the effective time of the Sale Event, the plan and all awards will terminate. In the event of such termination, except as otherwise may be provided in the award agreement, all options and stock appreciation rights with time-based vesting shall become fully exercisable as of the effective time of the Sale Event, all other awards with time-based vesting, conditions or restrictions shall become fully vested and nonforfeitable as of the effective time of the Sale Event, and all awards with conditions and restrictions relating to the attainment of performance goals shall be deemed to vest and become nonforfeitable as of the Sale Event assuming the higher of (a) achievement of all relevant performance goals at the “target” level (prorated based upon the length of time within the performance period that elapsed prior to the Sale Event) or (b) actual achievement as of the date of such Sale Event. In addition, in the event of such termination, (a) we shall have the option, in our sole discretion, to make or provide for a payment, in cash or in kind, to participants holding options and stock appreciation rights equal to the difference between the per share consideration and the exercise price of the options or stock appreciation rights or (b) each grantee will be permitted, within a specified period of time prior to the Sale Event, to exercise all outstanding options and stock appreciation rights, to the extent then exercisable. We shall also have the option (in our sole discretion) to make or provide for a payment, in cash or in kind, to holders of other awards in an amount equal to the consideration paid in the transaction multiplied by the number of vested shares subject to the award.

Adjustments for Stock Dividends, Stock Splits, Etc. The 2019 Equity Incentive Plan requires the Compensation Committee to make appropriate adjustments to the number of shares of common stock that are subject to the 2019 Equity Incentive Plan, to certain limits in the 2019 Equity Incentive Plan, and to any outstanding awards to reflect stock dividends, stock splits, extraordinary cash dividends and similar events.

Tax Withholding. Participants in the 2019 Equity Incentive Plan are responsible for the payment of any federal, state or local taxes that we are required by law to withhold upon the exercise of options or stock appreciation rights or vesting of other awards. Subject to approval by the Compensation Committee, participants may elect to have the tax withholding obligations satisfied by authorizing us to withhold shares of common stock to be issued pursuant to the exercise or vesting.

Amendments and Termination. The Board may at any time amend or discontinue the 2019 Equity Incentive Plan and the Compensation Committee may at any time amend or cancel any outstanding award for the purpose of satisfying changes in the law or for any other lawful purpose. However, no such action may adversely affect any rights under any outstanding award without the holder’s consent. To the extent required under the rules of NASDAQ, any amendments that materially change the terms of the 2019 Equity Incentive Plan will be subject to approval by our stockholders. Amendments shall also be subject to approval by our stockholders if and to the extent determined by the Compensation Committee to be required by the Code to preserve the qualified status of incentive options.

Effective Date of Plan Amendment. The Board approved the 2019 Equity Incentive Plan on April 10, 2019, and the 2019 Equity Incentive Plan will become effective on the date it is approved by stockholders. No awards may be granted under the 2019 Equity Incentive Plan after May 16, 2029 and no incentive stock options may be granted after April 10, 2029.

If the 2019 Equity Incentive Plan is not approved by stockholders, our 2007 Equity Incentive Plan, as amended, will continue in effect until it expires, and awards may be granted thereunder, in accordance with its terms.

NEW PLAN BENEFITS

All future grants under the 2019 Equity Incentive Plan are within the discretion of the Compensation Committee. For this reason, we cannot determine the dollar value or number of shares of common stock that will in the future be received by or allocated to any participant under the 2019 Equity Incentive Plan.

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TAX ASPECTS UNDER THE CODE

The following is a summary of the principal federal income tax consequences of certain transactions under the 2019 Equity Incentive Plan. It does not describe all federal tax consequences under the 2019 Equity Incentive Plan, nor does it describe state or local tax consequences.

Incentive Options. No taxable income is generally realized by the optionee upon the grant or exercise of an incentive option. If shares of common stock issued to an optionee pursuant to the exercise of an incentive option are sold or transferred after two years from the date of grant and after one year from the date of exercise, then (a) upon sale of such shares, any amount realized in excess of the option price (the amount paid for the shares) will be taxed to the optionee as a long-term capital gain, and any loss sustained will be a long-term capital loss, and (b) AMAG will not be entitled to any deduction for federal income tax purposes. The exercise of an incentive option will give rise to an item of tax preference that may result in alternative minimum tax liability for the optionee.

If shares of common stock acquired upon the exercise of an incentive option are disposed of prior to the expiration of the two-year and one-year holding periods described above (a “disqualifying disposition”), generally (a) the optionee will realize ordinary income in the year of disposition in an amount equal to the excess (if any) of the fair market value of the shares of common stock at exercise (or, if less, the amount realized on a sale of such shares of common stock) over the option price thereof, and (b) we will be entitled to deduct such amount. Special rules will apply where all or a portion of the exercise price of the incentive option is paid by tendering shares of common stock.

If an incentive option is exercised at a time when it no longer qualifies for the tax treatment described above, the option is treated as a non-qualified option. Generally, an incentive option will not be eligible for the tax treatment described above if it is exercised more than three months following termination of employment (or one year in the case of termination of employment by reason of disability). In the case of termination of employment by reason of death, the three-month rule does not apply.

Non-Qualified Options. No income is realized by the optionee at the time the option is granted. Generally (a) at exercise, ordinary income is realized by the optionee in an amount equal to the difference between the option price and the fair market value of the shares of common stock on the date of exercise, and we receive a tax deduction for the same amount, and (b) at disposition, appreciation or depreciation after the date of exercise is treated as either short-term or long-term capital gain or loss depending on how long the shares of common stock have been held. Special rules will apply where all or a portion of the exercise price of the non-qualified option is paid by tendering shares of common stock. Upon exercise, the optionee will also be subject to Social Security taxes on the excess of the fair market value over the exercise price of the option.

Other Awards. AMAG generally will be entitled to a tax deduction in connection with an award under the 2019 Equity Incentive Plan in an amount equal to the ordinary income realized by the participant at the time the participant recognizes such income. Participants typically are subject to income tax and recognize such tax at the time that an award is exercised, vests or becomes non-forfeitable, unless the award provides for a further deferral.

Parachute Payments. The vesting of any portion of an option or other award that is accelerated due to the occurrence of a change in control may cause a portion of the payments with respect to such accelerated awards to be treated as “parachute payments” as defined in the Code. Any such parachute payments may be non-deductible to AMAG, in whole or in part, and may subject the recipient to a non-deductible 20% federal excise tax on all or a portion of such payment (in addition to other taxes ordinarily payable).

Limitation on Deductions. Under Section 162(m) of the Code, our deduction for certain awards under the 2019 Equity Incentive Plan may be limited to the extent that the Chief Executive Officer or other executive officer whose compensation is required to be reported in the summary compensation table receives compensation in excess of \$1 million a year. With respect to taxable years before January 1, 2018, compensation in excess of \$1 million was exempt from this deduction limit if it qualified as “performance-based compensation” within the meaning of Section 162(m). However, Section 162(m)’s deduction limit for performance-based compensation has been repealed, effective for taxable years beginning after December 31, 2017, with the exception of performance-based compensation payable pursuant to binding written agreements in effect on November 2, 2017, which are not materially modified. The 2019 Equity Incentive Plan was structured to allow certain awards to qualify as performance-based compensation and

certain outstanding awards granted under the 2019 Equity Incentive Plan may continue to qualify as performance-based compensation to the extent they qualify for the limited transition relief available to agreements in effect as of November 2, 2017. However, awards granted under the 2019 Equity Incentive Plan will not be eligible to qualify as performance-based compensation.

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EQUITY COMPENSATION PLAN INFORMATION

The following table presents information at December 31, 2018 regarding shares of common stock that may be issued under our equity compensation plans (consisting of the 2007 Equity Incentive Plan, the 2013 Lumara Health Equity Incentive Plan and the 2015 Employee Stock Purchase Plan (the "ESPP")) and Inducement Awards.

Plan Category	Equity Compensation Plan Information		
	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights(1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities referenced in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders(2)	3,822,927	\$23.79	2,988,737
Equity compensation plans not approved by security holders(3)	1,022,187	\$27.84	18,242
Total	4,845,114(4)		3,006,979

(1) Since RSUs and PSUs do not have an exercise price, such units are not included in the weighted average exercise price calculation.

Includes 3,822,927 shares to be issued pursuant to outstanding awards under the 2007 Equity Incentive Plan. As of December 31, 2018, there were 2,548,513 shares available for issuance under the 2007 Equity Incentive Plan and 440,224 shares available for issuance under the 2015 ESPP.

Includes 895,636 shares to be issued pursuant to Inducement Awards and 126,551 shares to be issued pursuant to awards under the 2013 Lumara Health Equity Incentive Plan, which was assumed in connection with our acquisition of Lumara Health. The weighted-average exercise price of the outstanding options under the 2013 Lumara Health Equity Incentive Plan as of December 31, 2018 was \$30.99. As of December 31, 2018, there were 18,242 shares available for future grants under the 2013 Lumara Health Equity Incentive Plan, which may be awarded to certain of our employees, officers, directors, consultants, and advisors of AMAG and our subsidiaries who are newly-hired or who previously performed services for Lumara Health.

Includes 3,716,579 shares of common stock issuable upon the exercise of outstanding options, 900,535 shares of common stock issuable upon the vesting of RSUs and 228,000 shares of common stock issuable upon the vesting of PSUs. The weighted average exercise price for the outstanding options was \$24.81 and the weighted average remaining contractual term was 7.3 years.

Please see Note M to our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019 for additional information regarding our 2007 Equity Incentive Plan, the 2013 Lumara Health Equity Incentive Plan, 2015 ESPP and the Inducement Awards.

Required Vote

The affirmative vote of the holders of a majority of the shares of our common stock present or represented and voting at the Annual Meeting is required to approve the 2019 Equity Incentive Plan.

OUR BOARD UNANIMOUSLY RECOMMENDS, AND DEEMS ADVISABLE, THAT

STOCKHOLDERS VOTE “FOR” THE APPROVAL OF THE 2019 EQUITY INCENTIVE PLAN

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PROPOSAL 3: ADVISORY VOTE ON EXECUTIVE COMPENSATION

Pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the “Dodd-Frank Act”) and Section 14A of the Exchange Act, we are conducting a stockholder advisory vote on the compensation paid to our named executive officers. This proposal, commonly known as “say-on-pay,” gives our stockholders the opportunity to express their views on our named executive officers’ compensation. The vote is advisory, and, therefore, it is not binding on the Board, the Compensation Committee, or the Company. Nevertheless, the Compensation Committee will take into account the outcome of the vote when considering future executive compensation decisions. We currently intend to conduct this advisory vote annually.

As described in detail in the “Compensation Discussion and Analysis” section of this Proxy Statement, our executive compensation program is designed to attract, motivate and retain our named executive officers who are critical to our success. Our Board believes that our executive compensation program is well tailored to retain and motivate key executives while recognizing the need to align our executive compensation program with the interests of our stockholders and our “pay-for-performance” philosophy. We encourage our stockholders to read the “Compensation Discussion and Analysis” section as well as the “Summary Compensation Table for the 2018, 2017 and 2016 Fiscal Years” table below and other related compensation tables and narrative disclosures, which describe our executive compensation philosophy, programs, and practices and the 2018 compensation of our named executive officers. We are asking our stockholders to indicate their support for the compensation of our named executive officers as described herein. This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and our executive compensation philosophy, programs, and practices as described in this Proxy Statement.

Accordingly, we ask our stockholders to vote “FOR” the approval, on an advisory basis, of the compensation of our named executive officers, as described in this Proxy Statement.

Required Vote

Advisory approval of this proposal requires the affirmative vote of the holders of a majority of shares of common stock present or represented and voting at the Annual Meeting. The say-on-pay vote is advisory, and therefore not binding on our Board, the Compensation Committee or the Company. However, our Board and our Compensation Committee value the opinions of our stockholders, and to the extent there is a significant vote against the compensation of our named executive officers as disclosed in this Proxy Statement, we will consider our stockholders’ concerns, and the Compensation Committee will evaluate whether any actions are necessary to address those concerns.

**OUR BOARD UNANIMOUSLY RECOMMENDS A VOTE “FOR” THE
APPROVAL OF, ON AN ADVISORY BASIS, THE COMPENSATION OF OUR NAMED
EXECUTIVE OFFICERS**

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EXECUTIVE OFFICERS AND COMPENSATION

Set forth below is a description of our current executive officers and of compensation received by our named executive officers for the year ended December 31, 2018.

EXECUTIVE OFFICERS

Please refer to “Proposal 1: Election of Directors” for Mr. Heiden’s biography.

Edward Myles, age 47, joined us as Senior Vice President of Finance, Chief Financial Officer and Treasurer in April 2016 and currently serves as Executive Vice President, Chief Financial Officer and Treasurer. Prior to joining us, Mr. Myles served in various positions at Ocata Therapeutics, Inc. (“Ocata”), a public biotechnology company, from 2013 to April 2016, most recently as Chief Financial Officer and Chief Operating Officer. During his tenure at Ocata he led the turnaround of the company, which ultimately resulted in its acquisition by Astellas Pharma Inc. in February 2016. Prior to Ocata, Mr. Myles served as Chief Financial Officer and Vice President of Operations at PrimeraDx, Inc., a molecular diagnostics company, from 2008 to 2013. He also served as Senior Vice President of Finance and Chief Financial Officer at Pressure Biosciences, Inc. from 2006 to 2008 and Controller at EMD Pharmaceuticals, Inc. (a wholly-owned subsidiary of Merck KGaA) from 2003 to 2006. Earlier in his career, Mr. Myles was an Associate in the healthcare investment banking group at SG Cowen Securities Corporation and served as Corporate Controller for Boston Biomedica, Inc., a public diagnostic and life science tools company. Mr. Myles began his career at PricewaterhouseCoopers LLP where he served a variety of clients in the life sciences and technology industries. From November 2018 to the present, Mr. Myles has served on the board of directors of Scholar Rock Holding Corporation, a biotechnology company, where he is the chair of the Audit Committee and a member of the Compensation Committee. Mr. Myles holds a B.S. in business administration from University of Hartford and an M.B.A. from the John M. Olin School of Business, Washington University.

Elizabeth Bolgiano, age 57, joined us in January 2014 as Senior Vice President of Human Resources and currently serves as Chief Human Resources Officer, Executive Vice President. Prior to joining us, Ms. Bolgiano served from 2010 to 2013 as senior Vice President of Human Resources and a member of the executive team at Thermo Fisher Scientific, Inc. Prior to Thermo Fisher Scientific, Ms. Bolgiano served as Group Human Resources Director of Smith & Nephew Company. From 1989 to 2004, Ms. Bolgiano progressed through various positions of increasing responsibility at Bristol-Myers Squibb Company. She holds a B.S. and an M.B.A. from Cornell University.

J. Alan Butcher, age 52, joined us as Executive Vice President and Chief Business Officer in April 2018. Prior to joining us, Mr. Butcher served as Senior Vice President, Licensing and Business Development at Purdue Pharma L.P. (“Purdue”), a pharmaceutical company, from April 2015 to April 2018. Prior to Purdue, he led a global business development team and was responsible for identifying, evaluating and negotiating expansion opportunities at Shire Plc (now part of Takeda Pharmaceutical Company Ltd.), a public biotechnology company, from 2012 to March 2015. Mr. Butcher also served from 2007 to 2012 in roles of increasing responsibility at Endo International plc, a public generics and specialty branded pharmaceutical company, where he most recently served as Vice President and General Manager. Mr. Butcher holds a B.S. in Clinical Microbiology and a M.A. in Biology with a concentration in Molecular Biology and Genetics from West Chester University of Pennsylvania. He is also a graduate of Cornell University’s Johnson Graduate School of Management.

Anthony Casciano, age 42, joined us as Senior Vice President of Sales and Marketing for the Company’s Hematology and Oncology business in September 2016 and currently serves as the Company’s Chief Commercial Officer. Prior to joining us, Mr. Casciano served for 16 years in positions of increasing responsibility at Sanofi US from 2000 to September 2016, where he most recently served as the head of marketing and led the General Medicine division. Mr. Casciano holds a B.S. in Exercise Physiology from Bridgewater State College.

Julie Krop, M.D., age 53, joined us as Chief Medical Officer and Senior Vice President, Clinical Development and Regulatory Affairs in June 2015 and currently serves as Chief Medical Officer, Executive Vice President. Prior to joining us, Dr. Krop served from 2012 to May 2015 in roles of increasing responsibility at Vertex Pharmaceuticals, Inc. (“Vertex”), a public biotechnology company, where she most recently served as Vice President, Clinical Development. Prior to Vertex, Dr. Krop held various positions at Stryker Corporation, a public medical technology company, from 2006 to 2011, where she most recently served as Vice President, Clinical Development and

Regulatory Affairs. Prior to her work at Stryker Corporation, Dr. Krop served as Vice President, Clinical Research at Peptimmune Inc., a biotechnology company, from 2003 to 2006, Director of Clinical Research at Millennium Pharmaceuticals, Inc., a public biopharmaceutical company (which was subsequently acquired by Takeda Pharmaceutical Company Limited), from 2001 to 2003 and Associate Director at Pfizer Inc., a public biopharmaceutical company, from 1999 to 2001. Dr. Krop holds a B.S. from Brown University and her medical degree from the Warren Alpert Medical School of Brown University. She completed her residency in the Department of Medicine at Georgetown University Hospital and a fellowship in the Department of Endocrinology at the Johns Hopkins University School of Medicine. In addition, Dr. Krop was a Robert Wood Johnson Foundation Clinical Scholar.

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Joseph D. Vittiglio, age 47, joined us in August 2015 as our Senior Vice President, Legal Affairs, General Counsel and Secretary and currently serves as General Counsel, Executive Vice President and Corporate Secretary. Prior to joining us, Mr. Vittiglio served from March 2015 to August 2015 as Vice President of Legal Affairs and a member of the Management Committee at Flexion Therapeutics, Inc. (“Flexion”), a public pharmaceutical company. Prior to Flexion, Mr. Vittiglio was the General Counsel and Secretary of AVEO Pharmaceuticals, Inc., a public biopharmaceutical company, from 2007 to March 2015. From 2005 to 2007, he served as Director of Corporate Legal Affairs at Oscient Pharmaceuticals Corporation (“Oscient”), a public pharmaceutical company. Prior to Oscient, Mr. Vittiglio was a senior corporate associate from 1998 to 2005 at Mintz, Levin, Cohn, Ferris, Glovsky and Popeo PC. Mr. Vittiglio holds a B.A. in International Relations from Tufts University and a J.D. from Northeastern University School of Law.

COMPENSATION DISCUSSION AND ANALYSIS

Executive Summary

Overview

Our Compensation Committee believes that our executive compensation program is appropriately designed and balanced as it both encourages our executive officers to work for our long-term prosperity and reflects a pay-for-performance philosophy, without encouraging our employees to assume excessive risks.

2018 Advisory Vote on Executive Compensation

At our 2018 annual meeting of stockholders, we held our seventh advisory vote on executive compensation. Approximately 99% of the votes cast on the proposal were in favor of our named executive officer compensation as disclosed in our proxy statement for the 2018 meeting, consistent with the results of our say-on-pay vote in 2017. Our Compensation Committee reviewed the final 2018 say-on-pay vote results and determined that, given the significant level of support and the Compensation Committee’s overall satisfaction with the program, no material changes to our executive compensation policies and programs were necessary at that time. We are again holding an advisory vote to approve executive compensation at our 2019 annual meeting of stockholders.

Executive Compensation Philosophy and Objectives

Our executive compensation program has consistently and meaningfully been focused on pay-for-performance principles, and has included payouts above or below target under our annual incentive plan when the Company’s performance was above or below expectations. Our key executive compensation objectives are to attract and retain the highest quality executive talent, motivate executives by aligning their short- and long-term interests with those of our stockholders, and reward short- and long-term individual and Company performance. We use the following principles to guide our decisions regarding executive compensation:

Objectives

The following is a summary of our overall executive compensation philosophy, as approved by our Compensation Committee and our Board:

Pay-for-Performance. Total compensation should reflect a “pay-for-performance” philosophy such that a substantial portion of executive compensation should include short- and long-term incentive awards that are tied to the achievement of the short- and long-term performance objectives of both the Company and the individual without encouraging excessive risk.

Alignment with Stockholders’ Interests. Total compensation levels should include a component that reflects stockholder returns and the Company’s overall performance through the use of equity-based awards.

External Competitiveness. We strive to ensure that our executives’ total compensation levels are competitive with peer companies so that we can attract and retain high performing key executive talent.

To ensure that our executives’ total compensation levels are competitive, our Compensation Committee, in consultation with its independent advisors and our senior management, periodically reviews the compensation policies and practices of other companies in our peer group and the composition of our peer group, which includes commercial stage biopharmaceutical companies with similar business models, industry, complexity, market capitalization, annual revenue and employee headcount.

Internal Parity. To the extent practicable, base salary levels and short- and long-term incentive target levels for similarly-situated executives within the Company should be comparable to avoid divisiveness and encourage teamwork, collaboration, and a cooperative working environment.

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Simplicity and Flexibility. Our executive compensation program should be straightforward and easy to understand for both our employees and stockholders. The compensation program should also be sufficiently flexible to be able to adapt to rapid changes in the competitive environment for executives in the biotechnology and pharmaceuticals sectors.

Avoidance of Excessive Perquisites. Although we will consider certain perquisites that are common and appropriate for similarly-situated executives of public companies, as a general matter, we intend to avoid the payment of excessive, unusual, or unnecessary perquisites to executives.

Key Features of Our Compensation Program

Our compensation program is administered under a rigorous process which includes the solicitation by the Compensation Committee of advice of an independent third-party consultant and long-standing, consistently applied practices with respect to the timing of equity grants, the pricing of stock options and the periodic review of peer group practices.

Our Policies and Practices

Pay for performance	A significant portion (78%) of our executive officers' compensation is variable or "at risk." For example, the annual bonus amount for each named executive officer is based on the achievement of pre-established company strategic and financial goals and, with the exception of our Chief Executive Officer, individual performance. The actual economic value of the long-term incentives granted to our executive officers in the form of equity awards, which vest over three or four years, depends on the performance of our
Focus on Long-Term Performance	stock price over the period during which the awards vest and could be as little as zero with respect to stock options if our stock price is less than the exercise price of such stock options at the time of vesting or, in the case of PSUs, if our stock price appreciation underperforms the NASDAQ Biotechnology Index.
Cap on Bonus Payouts	No bonus awards will be issued in excess of 200% of the executive's target bonus.
Change in Control Double Trigger	Neither cash benefits nor acceleration of time-based equity awards are automatically provided to our executive officers in the event of a change of control of the Company unless either the acquirer does not assume the equity awards or there is also a termination of service (or the executive officer resigns for good reason) within one year from the date a change of control of the Company occurs.
Independent Compensation Consultant	We engage an independent advisor, which reports directly to the Compensation Committee.
Stock Ownership Guidelines	To align the interests of our executive officers with our stockholders, we maintain stock ownership guidelines (three times salary for our Chief Executive Officer and one times salary for all other executives).
Clawback Policy	We maintain a clawback policy that allows us to recover cash and equity-based incentive compensation from certain officers in the event we are required to prepare an accounting restatement due to material noncompliance with financial statement requirements.
No Hedging or Pledging	Our Insider Trading Policy prohibits directors, officers and other employees from selling short, buying or selling puts or calls, purchasing on margin and pledging or creating any other encumbrance with respect to our securities.
No Repricing	We never re-price our stock options or issue them with below-market exercise prices.
No Excise Tax Gross-ups on Change in Control Benefits	We do not provide any tax gross-up benefits for excise taxes associated with change in control compensation.
No Guaranteed Bonuses or Salary	We do not provide our executive officers with guarantees for annual salary increases or non-performance-based guaranteed bonuses or equity compensation.

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No Share Recycling or Evergreen Provisions	Our 2019 Equity Plan prohibits share recycling and does not contain an evergreen renewal provision.
No Excessive Perquisites	Our named executive officers receive only limited perquisites.
No Post-Termination Retirement or Pension Benefits	We do not provide any post termination retirement benefits, such as defined benefit pension plans to our employees.

Executive Compensation Decisions and Processes

General

The Compensation Committee typically meets at least four times per year, with additional meetings planned as necessary. The Compensation Committee met six times during 2018. The agenda for each meeting is usually developed by the Chair of the Compensation Committee, in close consultation, as appropriate, with our President and Chief Executive Officer, Chief Human Resources Officer, General Counsel, and other executives who may have input on a given agenda item. From time to time, various members of management as well as outside advisors and consultants may be invited to make presentations, to provide background information or advice, or to otherwise participate in a given meeting; however, the Compensation Committee meets regularly in executive session. Our Chief Executive Officer is often present and actively participates in discussions and deliberations regarding the compensation of our executive officers. However, our Chief Executive Officer is not present during deliberations regarding his own performance and compensation.

Establishing Annual Performance Goals

At the beginning of each year, the Board agrees upon a defined list of goals against which it will evaluate the Company's performance at the end of the year for purposes of making executive compensation decisions, based upon the recommendation of the Compensation Committee. The Compensation Committee develops these goals in consultation with senior management, and endeavors to make the goals consistent with the Company's financial budget and strategic plan for the year, with the expectation that the Company will achieve its baseline goals for the year and that scoring of the goals at the end of the year will likely yield a bonus payout at or about the target amount. The weight given to the various Company goals is based on the Compensation Committee's and the Board's subjective determination of the Company's relative strategic and operating priorities for the upcoming fiscal year. Whenever possible, the Compensation Committee attempts to develop quantitative measures of performance to provide clarity throughout the year as to how the Company is progressing against its goals.

In addition, our Chief Executive Officer works with each executive officer to establish his or her individual annual performance goals and objectives. Individual executive performance goals are not established or scored based on a mathematical calculation (other than our Chief Executive Officer whose bonus is determined by the Company's performance score), in contrast to the manner in which the overall Company performance goals are established and scored. Rather, individual executive performance goals are established in a manner that allows for more qualitative and subjective assessment.

Annual Executive Compensation Decision-Making Processes

The Compensation Committee conducts an annual review of the performance and compensation of each of our executive officers, including our Chief Executive Officer. This review is typically conducted over a series of Compensation Committee meetings toward the end and just after the end of the completed fiscal year, and is intended to coincide with the Company's annual Company-wide performance review process.

Our Chief Executive Officer and certain members of senior management typically report to the Compensation Committee and the Board on the Company's overall performance on a regular basis throughout the year. At the end of the year, our Chief Executive Officer and certain members of the senior management team present the Compensation Committee with a proposed score based on the Company's actual performance as calculated against the corporate performance goals and targets established by the Compensation Committee and the Board at the outset of the year. Because the Company's overall performance goals allow for some amount of subjective and qualitative assessment, there are typically a series of meetings and discussions among senior management, the Compensation Committee and

the Board as to the exact and appropriate scoring of the Company's performance against the goals established by the Board at the outset of the year. At the conclusion of the foregoing discussions, the Compensation Committee exercises its discretion to determine a final Company performance score for the completed fiscal year.

The Company's overall performance score is used to determine the size of the Company-wide bonus pool. In addition, the Company's annual performance score determines the annual bonus for our Chief Executive Officer. Given that our Chief Executive Officer has ultimate operational responsibility for the overall performance of the Company, the Compensation

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Committee and the Board believe that his individual annual performance goals and the Company's overall annual performance goals should be the same and, therefore, determined that his bonus shall be entirely based on the Company's overall performance score.

For our other named executive officers, our Chief Executive Officer evaluates the executive officer's overall achievement of his or her performance throughout the year as well as his or her contributions to the Company's corporate goals and recommends a bonus amount based on the executive's target bonus, for each executive officer to the Compensation Committee. The Compensation Committee reviews the recommendations of the Chief Executive Officer and each individual executive's contribution and performance goals, and applies an individual modifier to the corporate score of plus or minus up to 20% depending on such executive officer's performance during the applicable year. In addition, the Company has a policy that provides that no bonus awards will be issued in excess of 200% of the executive's target bonus. The Compensation Committee believes that our Chief Executive Officer is in the best position to evaluate the performance of the executives, other than himself, and the Compensation Committee believes that substantial deference to our Chief Executive Officer's evaluation of such executives and his related recommendations is generally appropriate. With respect to our Chief Executive Officer, he generally reports to the Compensation Committee and the Board on his performance for the completed fiscal year and they provide him feedback regarding that performance. The Compensation Committee generally considers all of the foregoing and makes a determination as to the appropriate level of his base salary, bonus and equity awards.

Generally, at or around the time the Compensation Committee reviews and approves the bonus amount for the executives for the completed fiscal year, it also reviews the salary level of each executive and determines the amount of the annual equity grant to each executive for the then current fiscal year. In accordance with our executive compensation philosophy, the Compensation Committee seeks to ensure that each executive's salary and the value of the annual equity grant to each executive are competitive with that of similarly situated executives, to the extent such comparable positions exist.

Independent Compensation Consultants

Under its charter, the Compensation Committee is authorized to engage such independent advisors as it deems necessary or appropriate to carry out its responsibilities. The Compensation Committee conducts a thorough independent review of the Company's overall executive compensation practices relative to its peer group, as well as the composition of the peer group itself, as frequently as every year, or as needed. Consistent with past practice, in September 2017 the Compensation Committee retained the Rewards Solution practice at Aon, specifically members of their Radford advisory team, to perform an executive compensation review for fiscal year 2018 and to provide ad hoc general compensation consulting and advisory services to the Compensation Committee during 2018, including, but not limited to, executive and equity compensation and incentive design. The Compensation Committee has assessed the independence of Radford pursuant to NASDAQ and SEC rules, including evaluating whether other services will be provided by Radford to the Company, the amount of the fees anticipated to be received by Radford, and Radford's policies and procedures designed to prevent conflicts of interest. Based on this evaluation, the Compensation Committee concluded that no conflict of interest exists that would prevent Radford from serving as an independent consultant to the Compensation Committee.

Beginning in late 2018, Radford initiated discussions with the Compensation Committee comparing the overall compensation then provided by the Company to each of our executive officers, including annual salary, annual bonus opportunity, and annual equity grants against publicly available compensation information from 15 peer companies, described below, identified in consultation with senior management and the Compensation Committee (the "Radford Report"). The peer group companies were selected primarily on the basis of industry, market capitalization, stage of development, annual revenue and number of employees. In addition to publicly available proxy data from the selected peer group companies, Radford utilized its own proprietary market compensation data for the industry.

With input from senior management, the Compensation Committee discussed, reviewed and approved the following criteria, which Radford then used to develop a proposed updated peer group for purposes of the Compensation Committee's evaluation of our 2018 executive compensation practices:

- 15 publicly-traded U.S. companies to ensure a meaningful market sample;
- Biopharmaceutical companies with revenue targeted from \$200 million to \$2 billion;
- Employee headcount targeted from 300 to 3,000; and
- Market capitalization targeted from \$200 million to \$2 billion.

Radford solicited input from senior management before making its final recommendation regarding the Company's peer group to the Compensation Committee. After review and discussion with Radford, the Compensation Committee accepted the recommendations proposed by Radford with respect to our compensation peer group. Accordingly, the Compensation Committee based its 2018 executive compensation review utilizing the following peer group:

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Peer Group

- | | |
|---|----------------------------------|
| • Acorda Therapeutics, Inc. | • Pacira Pharmaceuticals, Inc. |
| • Depomed, Inc. | • Spectrum Pharmaceuticals, Inc. |
| • Eagle Pharmaceuticals* | • Sucampo Pharmaceuticals, Inc. |
| • Emergent BioSolutions, Inc. | • Supernus Pharmaceuticals, Inc. |
| • Horizon Pharma Public Limited Company | • The Medicines Company |
| • INSYS Therapeutics, Inc. | • TherapeuticsMD* |
| • Ironwood Pharmaceuticals, Inc. | • Vanda Pharmaceuticals, Inc.* |
| • Nektar Therapeutics | |

* New addition to our peer group for purposes of determining 2018 executive compensation based on the Company's evolving parameters.

In addition to the companies added to our peer group noted above, Ionis Pharmaceuticals, Inc. was removed from our peer group for purposes of determining 2018 executive compensation based primarily on the differences in our market value. ARIAD Pharmaceuticals, Inc. was also removed from our peer group because it was acquired by another company.

The Radford Report confirmed that our then existing executive compensation practices were generally in line with our overall executive compensation philosophy. In particular, the Radford Report confirmed that we had been adhering to our philosophy that total executive compensation should be more heavily weighted toward long-term incentive compensation to ensure that the interests of our executives are aligned with those of our stockholders and that the proportion of total compensation at risk should rise as an executive's level of responsibility increases.

Elements of Our Executive Compensation Program

Consistent with our executive compensation objectives, we have developed an executive compensation program consisting of base salary, short-term incentives in the form of annual cash bonus opportunities, long-term incentives in the form of equity-based awards (stock options, RSUs and PSUs), and benefits. To further our guiding compensation principles, the relative mix of the foregoing components of each executive's total potential compensation should be weighted more toward performance-based compensation, both short- and long-term. In 2017 we introduced PSUs which will be earned based on the TSR of our common stock relative to the TSR of common stock of companies on the Nasdaq Biotechnology Index over a three-year period.

The value of such variable compensation is generally weighted more heavily toward long- than short-term incentives to ensure the interests of the executives are more closely aligned with those of our stockholders. The Compensation Committee strives to maintain an appropriate balance between short- and long-term incentive awards and alignment between our executives' compensation and our Company's performance. For example, Mr. Heiden's performance-based compensation amounted to 65% of his total 2018 compensation and 72% of his total estimated 2019 compensation. In particular, the Compensation Committee believes it is important that a majority of our Chief Executive Officer's total compensation be tied to the performance of our stock relative to our peers and therefore in 2019, Mr. Heiden's PSU awards are expected to make up 45% of his projected total 2019 compensation (57% of his 2019 equity awards), as compared to 2018 when the PSU award made up 26% of his total compensation (24% of his 2018 equity awards). For purposes of Mr. Heiden's bonus in the depiction below, we assumed he received his target 2019 bonus.

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Components of Our Executive Compensation Program

Component	Purpose	Key Features
Base Salary	Provides fixed annual cash compensation that is competitive with base salary levels provided to executives in similar positions, responsibility, experience, qualifications, and performance among our peers.	– Fixed cash compensation
		– Reviewed annually and adjusted as appropriate
Short-Term Incentives	Motivates executives to achieve both the Company's annual operating goals and the individual's annual performance objectives.	– Provides predictability to executives
		– Allows us to recruit and retain the best qualified executives
Long-Term Incentives	Aligns the interests of executives with those of our stockholders and provides executives with a continuing ownership stake in our long-term success through a mix of options, RSUs, and PSUs.	– Variable cash compensation
		– Amount of annual bonus is based on the achievement of pre-established company performance goals with an individual modifier of plus or minus up to 20% depending on such executive officer's performance during the applicable year (for our Chief Executive Officer, the annual bonus is based solely on the level of achievement of the corporate goals)
Health and Life Insurance and Other Employee Benefits	Competitive to that offered by companies similar to us to ensure that we do not lose talented candidates or employees as a result of an inferior benefits package.	– No amount is guaranteed
		– Determined annually
		– Annual equity-based awards
		– Promotes retention (three to four-year vesting periods)
		– Options provide value only if there is future stock appreciation
		– Number of PSU shares earned is determined based on TSR of our common stock relative to TSR of common stock of companies on the NASDAQ biotechnology index

2018 Base Salary

Base salaries of executives are reviewed annually as part of our annual review process in light of the executive's individual performance and the Company's performance during the year as well as the then current competitive conditions. We believe that it is appropriate during most years to provide an upward adjustment to executive salaries if the executive's performance warrants such adjustment, our financial condition permits, and/or in order to adhere to our executive compensation philosophy of maintaining base salary levels near the 50th percentile as compared to our peers. The Radford Report (described above under "Independent Compensation Consultants") noted that for 2018, the

base salaries for our named executive officers in the aggregate fell at approximately the 50th percentile and the base salary for Mr. Heiden fell at approximately the 38th percentile, as compared to Radford's market compensation data. As such, based on the Radford Report, in March 2018 the Compensation Committee approved merit increases between approximately 3.0% and 9.5% in order to maintain or align the base salaries of our named executive officers with the 50th percentile. Accordingly, the base salaries, on an annualized basis, of our named executive officers (other than Mr. Butcher, who joined the Company in 2018 and whose compensation was set in his employment agreement) were increased, effective March 2018, as follows:

Name	2017	2018
	Base	Base
	Salary	Salary
	(\$)	(\$)
William K. Heiden	700,000	766,500
Edward Myles	425,000	444,100
J. Alan Butcher	—	450,000
Nicholas Grund	463,500	477,400
Julie Krop, M.D.	440,000	457,600

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2018 Annual Cash Bonus

Achievement of Overall Company Performance Goals

The target amount for the annual bonus opportunity is generally established at the outset of the fiscal year or in the executive officer's employment agreement and is generally based on a percentage of the executive's base salary that is intended to be competitive with that offered to similarly-situated executives, to the extent such comparable positions exist. As described above under "Annual Executive Compensation Decision-Making Processes," with the exception of Mr. Heiden, under the current executive annual performance bonus plan, the amount of each named executive officer's annual bonus is based on pre-established company performance goals with an individual modifier of plus or minus up to 20% depending on such executive officer's performance during the applicable year.

In accordance with the process detailed above under "Establishing Annual Performance Goals," and based on the recommendation of the Compensation Committee after consultation with senior management, in early 2018 the Board established the Company's 2018 performance goals. In early 2019, the Compensation Committee scored the 2018 goals and awarded the Company 135 out of 100 points based on the following conclusions:

Corporate Goal	Weight	Result	Award Value
Financial - (i) net product and services sales at or above \$410 million, (ii) adjusted EBIDTA, excluding new transactions, of \$70 million, and (iii) target (10%) new prescription exit share for Intrarosa adjusted EBIDTA, excluding new transactions, of \$70 million. *	40 %	(i) Exceeded revenue goal by approximately \$70 million, (ii) exceeded adjusted EBIDTA goal by \$45 million (iii) no points awarded for the Intrarosa goal (did not achieve goal).	60
Balance Sheet - alignment of balance sheet to business strategy.	10 %	Balance sheet transformed following sale of CBR business and debt repayment of \$475 million.	15
New Products - submission and acceptance of Vyleesi new drug application ("NDA").	15 %	The Vyleesi NDA was filed in a timely and high quality manner; accepted for filing.	15
Portfolio Expansion - expand portfolio through in-licensing or acquisition.	10 %	Acquired two high-value development stage product candidates.	15
Life Cycle Management - Feraheme and Intrarosa label expansions.	15 %	Achieved Feraheme broad iron deficiency anemia label and fully enrolled Intrarosa HSDD study.	20
Organizational Development - implementation of effective digital consumer campaigns, culture of compliance and effective risk management, employee diversity, data security and integration of newly acquired products.	10 %	Achieved strong results on all organizational development goals (including diversity), successful integration of two new products/programs and the implementation of data privacy controls.	10
Total	100 %		135

* Financial goals reflect adjustment following the Company's August 2018 divestiture of its Cord Blood Registry business.

Adjusted EBIDTA reflects net income under U.S. Generally Accepted Accounting Principles adjusted to account for depreciation and amortization, acquired in-process research and development, net interest expense, provision for income taxes, stock-based compensation and certain other non-cash and non-recurring adjustments.

Actual 2018 Annual Cash Bonus

As discussed above, Mr. Heiden's individual annual performance goals are the same as the Company's overall performance goals. Accordingly, Mr. Heiden's 2018 performance score was 135% during 2018 and therefore the Compensation Committee awarded Mr. Heiden 135% of his target bonus amount. Based on the above scoring of the Company's 2018 goals at 135% and as modified by the individual performance results of each named executive

officer, other than Mr. Heiden, the Compensation Committee approved a 2018 performance bonus to each of the named executive officers as follows:

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Name	2018 Target Bonus (as a % of Base Salary)(1)	2018 Target Bonus (\$)	2018 Target Bonus Adjusted for 135% Achievement of Company Goals (\$)	2018 Individual Modifier Percentage	2018 Target Bonus Percentage Awarded	2018 Actual Annual Bonus (\$)
William K. Heiden	85%	651,525	879,559	100%	135%	879,600
Edward Myles(2)	45%	199,845	269,791	120%	162%	323,700
J. Alan Butcher (3)	45%	135,925	183,498	110%	149%	202,410
Nicholas Grund (4)	50%	238,700	322,245	95%	128%	306,100
Julie Krop, M.D. (5)	45%	205,920	277,992	110%	149%	305,800

In March 2018, the Compensation Committee, in connection with its overall compensation review of our named executive officers and based on the recommendation of Radford, determined the 2018 target bonus as a percentage (1) of base salary for each of our named executive officers, with the exception of Mr. Butcher. Mr. Butcher's target bonus percentage was set in his April 2018 employment agreement. The target bonus as a percentage of salary for each of our named executive officers remained the same in 2018 as 2017.

Mr. Myles' individual achievements included making several significant enhancements across the accounting and (2) finance organizations as well as his leadership role in the divestiture of the Company's CBR business enabling the early full repayment of the Company's high yield notes.

Mr. Butcher's individual achievements included his key role in developing the Company's updated strategic plan as (3) well as pursuing and closing two transactions. Mr. Butcher's 2018 bonus payment reflects a pro-rated amount for the time he was employed by the Company in 2018.

Mr. Grund's individual achievements included the successful launches of the Makena auto-injector product and the (4) expanded Feraheme label. However, the Intrarosa revenues fell below the Company's goals.

Dr. Krop's individual achievements included two FDA approvals (the Makena subcutaneous auto-injector and the (5) Feraheme label expansion), submission and acceptance by the FDA of an NDA for Vyleesi and the successful expansion of the Company's development organization.

2018 Annual Equity Awards

The Compensation Committee and the Board believe that the amount of a new hire and an annual equity-based award should be competitive to that offered to similarly-situated executives, to the extent such comparable positions exist, and total executive compensation should be more heavily weighted toward long-term incentive compensation to ensure that the interests of our executives are aligned with those of our stockholders. In addition, the Compensation Committee and the Board believe that the proportion of total at-risk compensation should rise as an executive's level of responsibility increases because of the executive's increased ability to influence overall Company performance.

The Company's philosophy is to award a portion of each executive's total annual equity grant to executives in the form of a mix of stock options, RSUs and PSUs, with the total value of the annual equity awards at or above the 50th percentile relative to similarly situated executives in our peer group and with the allocation percentage of equity mix also in line with our peer group. Accordingly, based upon recommendations contained in the Radford Report and recommendations by Mr. Heiden (with respect to the executive officers other than Mr. Heiden), in March 2018, the Compensation Committee awarded our executive officers with a time-based stock option grant, a time-based RSU grant and a PSU grant (detailed below), which when combined, and valuing the RSUs and PSUs at a ratio of approximately one to 2.3 as compared to stock options, provided the executive officers an award at approximately the

50th percentile as compared to Radford's market compensation data. Mr. Butcher did not receive annual equity awards, as he received new hire awards when he began employment with the Company, as discussed below.

Time Based Stock Options

In March 2018, stock options to purchase the following number of shares of our common stock were granted pursuant to our 2007 Equity Incentive Plan at an exercise price of \$21.00, which was the fair market value of a share of our common stock on the date of grant. These options have a ten-year term and vest over four years after the grant date as follows: (a) 25% on the first anniversary of the grant date and (b) equal quarterly installments over the next three years thereafter.

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Name	Number of Shares
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William K. Heiden	100,000
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Edward Myles	24,000
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Nicholas Grund	24,000
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Julie Krop, M.D.	22,000
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Time Based Restricted Stock Units

In March 2018, RSU grants covering the following number of shares of our common stock were awarded pursuant to our 2007 Equity Incentive Plan. These RSUs vest in equal installments over a three-year period beginning on the first anniversary of the grant date.

Name	Number of Shares
------	---------------------

William K. Heiden	45,500
-------------------	--------

Edward Myles	10,000
--------------	--------

Nicholas Grund	10,000
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Julie Krop, M.D.	13,000
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Performance Stock Units

In March 2018, PSU grants covering the following number of shares of our common stock were awarded under our 2007 Equity Incentive Plan and pursuant to the LTIP. The number of PSU shares earned under these awards is determined based on the TSR of our common stock relative to the TSR of the constituents of the NASDAQ Biotechnology Index (the “PSU Peer Group”) as of the beginning of the performance period from March 2, 2018 to March 1, 2021. The number of shares included in the table below represents the target shares awarded; however, the final shares awarded can range from zero to 150% of the target award amount based on our final TSR relative to our PSU Peer Group as follows:

Name	Number of Shares
------	------------------------

William K. Heiden	45,500
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Edward Myles	10,000
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Nicholas Grund	12,000
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Julie Krop, M.D.	12,000
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Index Relative TSR Return Percentage of Target Award Earned

Below 25 th Percentile	Below Threshold (0%)
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25 th Percentile	Threshold (50%)
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50 th Percentile	Target (100%)
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75 th Percentile	Maximum (150%)
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For fiscal 2019, the Committee modified the mix of long-term incentive awards granted to Mr. Heiden to further strengthen the link between those awards and the Company’s long-term performance and in February 2019, awarded Mr. Heiden 70,000 options, 31,000 RSUs and 132,000 PSUs.

New Hire Equity Awards

Upon Mr. Butchers’ start date in April 2018, Mr. Butcher received a stock option award of 62,393 shares with an exercise price of \$20.55 and a RSU award of 28,418 shares. These awards were granted outside of our stockholder-approved equity plans. The stock option award vests in four annual equal installments beginning on the first anniversary of the date of grant, and has a ten-year term. The RSU award vests in three annual equal installments beginning on the first anniversary of the date of grant. In addition, in line with our compensation philosophy, these new hire equity awards were, by design, more heavily weighted with stock options versus RSUs.

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Additional Compensation Information

Compensation Recoupment/Clawback

We have adopted a Policy for Recoupment of Incentive Compensation so that if the Company is required to prepare an accounting restatement due to our material non-compliance with any financial reporting requirements, then a committee of independent directors may require certain officers, including our named executive officers, to repay or forfeit any “excess compensation.” “Excess compensation” refers to the portion of cash and equity-based incentive compensation received by a covered officer on or after the date the policy was adopted during the three-year period preceding the publication of the restated financial statements that the independent director committee determines was in excess of the amount that such officer would have received had such incentive compensation been determined based on the financial results reported in the restated financial statements. The policy also provides that the independent director committee may take into account any factors it deems reasonable in determining (1) whether to seek recoupment of previously paid excess compensation and (2) if so, how much excess compensation to recoup from the covered officer. Recouped amounts need not be the same amount or proportion for every covered officer and may reflect whether the committee concluded that a covered officer engaged in wrongdoing or committed grossly negligent acts or omissions.

Executive Stock Ownership Guidelines

The Board believes that it is important that our executives be incentivized to focus on long-term stockholder value to ensure that the executives’ interests are aligned with those of our stockholders. Accordingly, the Board has adopted stock ownership guidelines to further align the interests of our executives with the interests of our stockholders and to promote our commitment to sound corporate governance.

Our stock ownership guidelines require all employees with a title of Senior Vice President or higher (each a “Covered Officer”), other than the Chief Executive Officer, to hold shares of our common stock with a value equal to one times the amount of his or her then-current annual base salary. Our Chief Executive Officer is required to hold shares of our common stock with a value equal to three times the amount of his or her then-current annual base salary. These ownership guidelines are calculated annually on the date of the annual meeting of stockholders based on the applicable annual base salary in effect on such calculation date. The value of a share will be measured on the date of our annual meeting of stockholders each year based on the average closing price over the 30 calendar days preceding the date of calculation. Such calculated ownership levels will be reported to the Governance and Risk Committee. Covered Officers are required to achieve the applicable level of ownership within five years of the later of the date the guidelines were adopted and the date the person first became a Covered Officer. In the event that a Covered Officer does not meet the foregoing stock ownership guidelines, such Covered Officer is prohibited from selling any stock acquired through vesting of RSUs or similar full-value awards or upon the exercise of stock options, except to pay for applicable taxes or the exercise price.

Shares that count toward satisfaction of the guidelines include shares owned outright by the Covered Officer or his or her immediate family members residing in the same household and shares held in trust for the benefit of the Covered Officer or his or her family. Unexercised and/or unvested equity awards do not count toward satisfaction of the guidelines.

Our stock ownership guidelines may be waived, at the discretion of the Board or the Governance and Risk Committee if compliance would create undue hardship or prevent a Covered Officer from complying with a court order, as in the case of a divorce settlement. It is expected that these instances will be rare.

401(k) Plan

We provide a 401(k) Plan to our employees under which they may defer compensation for income tax purposes under Section 401(k) of the Code. Under our current 401(k) Plan, we provide a fully vested contribution equal to 4.0% of each employee’s (including each named executive officer’s) base salary and bonus payments for each plan year. All contributions to the 401(k) plan by or on behalf of employees, including the Company’s 4.0% contribution, are subject to the aggregate annual limits prescribed by the Code.

Tax Deductibility of Executive Compensation

Section 162(m) of the Code generally places a \$1 million limit on the amount of compensation a company can deduct in any one year for certain executive officers and certain other individuals. Prior to the Tax Cuts and Jobs Act of 2017, which was signed into law December 22, 2017, there was an exception to the deduction limitation for “performance-based” compensation. The Tax Cuts and Jobs Act of 2017 eliminated this exception for “performance-based” compensation, effective for taxable

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years beginning after December 31, 2017. Therefore, compensation in excess of \$1 million paid to our named executive officers in 2018 and later years will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017 that are not subsequently materially modified. While the Board and Compensation Committee consider tax deductibility as one factor in determining executive compensation, the Board and Compensation Committee also look at other factors in making their decisions, as noted above, and retain the flexibility to award compensation that they determine to be consistent with the goals of our executive compensation program even if the awards are not deductible by us for tax purposes.

Despite the Board's and the Compensation Committee's efforts to structure certain performance-based awards in a manner intended to be exempt from Section 162(m) and therefore not subject to its deduction limits, because of ambiguities and uncertainties as to the application and interpretation of Section 162(m) and the regulations issued thereunder, including the uncertain scope of the transition relief under the legislation repealing the performance-based compensation exemption from the deduction limit, no assurance can be given that compensation intended to satisfy the requirements for exemption from Section 162(m) in fact will. Further, the Board and Compensation Committee reserve the right to modify compensation that was initially intended to be exempt from Section 162(m) if it determines that such modifications are consistent with our business needs. The Board and Compensation Committee believe that shareholder interests are best served if its discretion and flexibility in awarding compensation is not restricted, even though some compensation awards may result in non-deductible compensation expenses.

COMPENSATION COMMITTEE REPORT²

The Compensation Committee has reviewed the "Compensation Discussion and Analysis" section of this Proxy Statement and discussed such section with management. Based on its review and discussions and its ongoing involvement with executive compensation matters, the Compensation Committee recommended to the Board that the "Compensation Discussion and Analysis" section of this Proxy Statement be included in this Proxy Statement and incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2018. This report is provided by the following independent directors who comprise the Compensation Committee:

Lesley Russell, Chair

John Fallon

Gino Santini

² The material in this report is not "soliciting material," is furnished to, but not deemed "filed" with, the SEC and is not deemed to be incorporated by reference in any filing of the Company under the Securities Act or the Exchange Act, other than the Company's Annual Report on Form 10-K, where it shall be deemed to be "furnished," whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

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Summary of Executive Compensation

The following table sets forth for the fiscal years ended December 31, 2018, 2017 and 2016 compensation awarded, paid to, or earned by, our President and Chief Executive Officer (our principal executive officer), our Chief Financial Officer (our principal financial officer), and our three other most highly compensated executive officers at December 31, 2018 (our “named executive officers”).

SUMMARY COMPENSATION TABLE FOR THE 2018, 2017 and 2016 FISCAL YEARS

Name and Principal Position	Year	Salary (\$)(1)	Bonus (\$)	Stock Awards (\$)(2)	Option Awards (\$)(2)	Non-Equity Incentive Plan Compensation (\$)	All Other Compensation (\$)(3)	Total (\$)
William K. Heiden President and Chief Executive Officer	2018	780,635	—	2,223,130	1,071,850	879,600	11,000	4,966,215
	2017	702,973	—	2,355,350	729,274	553,350	8,100	4,349,047
	2016	632,107	—	906,480	931,787	543,500	7,950	3,021,824
Edward Myles (4) Chief Financial Officer, Executive Vice President and Treasurer	2018	456,794	—	488,600	257,244	323,700	11,000	1,537,338
	2017	428,847	—	402,150	224,392	216,113	8,100	1,279,602
	2016	276,923	34,300	(5)491,600	(6)379,033	(6)115,726	7,950	1,305,532
J. Alan Butcher (7) Chief Business Officer and Executive Vice President	2018	294,231	300,000	(8)583,990	(6)657,098	(6)202,410	45,333	2,083,062
Nicholas Grund (9) Former Chief Commercial Officer	2018	492,559	—	544,320	257,244	306,100	11,000	1,611,223
	2017	470,078	—	536,200	280,490	203,940	8,100	1,498,808
	2016	432,692	100,000	(8)914,560	(6)567,824	(6)231,750	7,950	2,254,776
Julie Krop, M.D. Chief Medical Officer and Executive Vice President, Clinical and Regulatory Affairs	2018	471,139	—	607,320	235,807	305,800	11,000	1,631,066
	2017	441,885	—	402,150	224,392	194,040	8,100	1,270,567
	2016	398,615	—	226,620	246,650	160,800	7,950	1,040,635

- Amounts shown represent base salary amounts earned by our named executive officers in fiscal years 2018, 2017 and 2016. Salary increases generally occur once each year and are not retroactive to the beginning of that year. For this reason, the amount earned by the named executive officer in a given fiscal year may be lower than such officer’s base salary rate for the majority of the year. In addition, during 2018, the Company implemented a flexible vacation time off policy for employees in positions of Vice President or above. Accordingly, included in the amounts above are the following one-time cash payouts for vacation time accumulated prior to the effective date of the new policy: Mr. Heiden: \$26,923; Mr. Myles: \$16,346; Mr. Grund: \$17,827; and Dr. Krop: \$16,923.
- (2) The amounts shown do not reflect compensation actually received by the named executive officers but represent the aggregate grant date fair value of stock options, RSUs or PSUs granted to our named executive officers and are calculated in accordance with current guidance under accounting for stock-based compensation, disregarding adjustments for the forfeitures. Option awards are valued using a Black-Scholes valuation model. Time-based RSUs are valued by multiplying the closing market price of a share of our common stock on the grant date by the

number of RSUs granted. PSUs are valued using a Monte-Carlo simulation model, which considered a range of potential future share prices of our stock as well as our peer companies in a selected market index over the performance period. The fair value of the PSUs is reported for the probable outcome, which for this purpose is the target level of achievement of the performance conditions. The fair value of the PSUs at the maximum level of achievement for those executive officers who received PSUs in 2018 is as follows: Mr. Heiden: \$1,901,445; Mr. Myles: \$417,900; Mr. Grund: \$501,480; and Dr. Krop: \$501,480. The assumptions used to value the stock option awards and PSUs for all periods presented above are set forth in Note M to our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 1, 2019. Further information regarding our 2018 awards is included in the “Grants of Plan-Based Awards Table for the 2018 Fiscal Year” and “Outstanding Equity Awards at December 31, 2018” tables below.

Includes Company 401(k) contributions for each named executive officer. For Mr. Butcher, the amount also (3) includes \$34,333 reimbursement for certain expenses related to Mr. Butcher’s relocation to Boston in connection with his joining the Company in April 2018.

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- (4) Mr. Myles joined us in April 2016 and therefore his 2016 salary and bonus payments reflect a pro-rated amount for the time he was employed by the Company in 2016.
- (5) Reflects a one-time special bonus paid to Mr. Myles to recognize his significant contributions to the Company in 2016.
- (6) Reflects the value of RSUs and stock options that were granted as new hire awards in connection with the commencement of the named executive officer's respective employment with the Company.
Mr. Butcher joined us in April 2018 and therefore compensation information is not provided for 2017 and 2016.
- (7) Mr. Butcher's 2018 salary and bonus payments reflect a pro-rated amount for the time he was employed by the Company in 2018.
- (8) Reflects a sign-on bonus paid to Mr. Butcher and Mr. Grund in connection with their joining the Company in April 2018 and January 2016, respectively.
- (9) Mr. Grund departed the Company in April 2019.

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Grants of Plan-Based Awards

The following table sets forth grants of plan-based awards to each of our named executive officers for the year ended December 31, 2018. Grants of equity incentive plan awards to each named executive officer were made pursuant to our 2007 Equity Incentive Plan, unless otherwise noted, and grants of non-equity incentive plan awards to each named executive officer were made pursuant to the executive bonus program described above under “2018 Annual Cash Bonus.”

GRANTS OF PLAN-BASED AWARDS TABLE FOR THE 2018 FISCAL YEAR

Name	Grant Date	Grant Type	Estimated Future Payouts Under Non-Equity Incentive Plan Awards		Estimated Future Payouts Under Equity Incentive Plan Awards		All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards (\$)	Grant Date Fair Value of Stock and Option Awards (\$)(3)
			Target (\$)(1)	Maximum (\$)(1)	Target (#)(2)	Maximum (#)(2)				
William K. Heiden		Incentive Plan	651,525	1,303,050	—	—	—	—	—	—
	3/2/2018	Stock Options	—	—	—	—	—	100,000	21.00	1,071,850
	3/2/2018	RSUs	—	—	—	—	45,500	—	—	955,500
	3/2/2018	PSUs	—	—	45,500	68,250	—	—	—	1,267,630
Edward Myles		Incentive Plan	199,845	399,690	—	—	—	—	—	—
	3/2/2018	Stock Options	—	—	—	—	—	24,000	21.00	257,244
	3/2/2018	RSUs	—	—	—	—	10,000	—	—	210,000
	3/2/2018	PSUs	—	—	10,000	15,000	—	—	—	278,600
J. Alan Butcher		Incentive Plan	135,925	271,850	—	—	—	—	—	—
	4/30/2018	Stock Options (4)	—	—	—	—	—	62,393	20.55	657,098
	4/30/2018	RSUs (4)	—	—	—	—	28,418	—	—	583,990
Nicholas Grund		Incentive Plan	238,700	477,400	—	—	—	—	—	—
	3/2/2018	Stock Options	—	—	—	—	—	24,000	21.00	257,244
	3/2/2018	RSUs	—	—	—	—	10,000	—	—	210,000
	3/2/2018	PSUs	—	—	12,000	18,000	—	—	—	334,320
Julie Krop, M.D		Incentive Plan	205,920	411,840	—	—	—	—	—	—

3/2/2018	Stock Options	—	—	—	—	—	22,000	21.00	235,807
3/2/2018	RSUs	—	—	—	—	13,000	—	—	273,000
3/2/2018	PSUs	—	—	12,000	18,000	—	—	—	334,320

The amounts reported in these columns represent the 2018 target and maximum cash incentive compensation award potential for each named executive officer. Based on our policy that no bonus awards will be issued in excess of 200% of the executive's target bonus, for purposes of this table, we have assumed that the maximum bonus amount payable to any named executive officer is equal to 200% of his or her target bonus amount. The Board and the Compensation Committee do not establish threshold bonus amounts. In March 2019, the Compensation Committee determined each executive officer's bonus amounts, resulting in the payouts detailed in the column labeled "Non-Equity Incentive Plan Compensation" in the Summary Compensation Table above. The target and maximum amounts reported for Mr. Butcher are prorated based on his April 2018 start date.

The amounts reported in these columns represent the 2018 target and maximum number of PSU shares which will vest, if at all, at the end of the three-year performance period applicable to the PSUs assuming achievement of the relevant

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performance objectives, as described below in “Discussion of Summary Compensation and Grants of Plan-Based Awards Tables.” The PSU awards granted in 2018 were made according to the metrics described below and are included in the Summary Compensation Table in the column labeled “Stock Awards.”

Amounts shown represent the aggregate grant date fair value of stock options, RSUs and PSUs granted to our named executive officers and are calculated in accordance with current guidance under accounting for stock-based compensation, disregarding adjustments for forfeitures. The fair value of the PSUs is reported for the probable outcome, which for this purpose is the target level of achievement. See Summary Compensation Table footnote (2) for additional details. The fair value shown in the table may not be indicative of the value realized on the date the options are exercised or the RSUs or PSUs vest due to variability in the share price of our common stock.

These RSUs and stock options were granted to Mr. Butcher as new hire awards in connection with the commencement of his employment with the Company during 2018. These grants were made outside of our stockholder approved equity plans in reliance on NASDAQ Listing Rule 5635(c)(4).

OUTSTANDING EQUITY AWARDS AT DECEMBER 31, 2018

The following table sets forth certain information regarding outstanding equity awards held by each of our named executive officers at December 31, 2018:

Name	Grant Date	Option Awards(1)		Option Exercise Price (\$)(1)	Option Expiration Date(1)	Stock Awards(1)		Equity Incentive Plan Awards: Market Payout Value of Unearned Shares, Other Rights That Have Not Vested \$(3)	
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable			Number of Shares or Units of Stock That Have Not Vested (#)(1)	Market Value of Shares or Units of Stock That Have Not Vested \$(2)	Number of Shares, Other Rights That Have Not Vested (#)(3)	Value of Unearned Shares, Other Rights That Have Not Vested \$(3)
William K. Heiden	5/14/2012	210,000(4)(5)	—	12.99	5/14/2022	—	—	—	—
	2/28/2013	86,300	—	16.55	2/28/2023	—	—	—	—
	2/27/2014	93,800	—	21.13	2/27/2024	—	—	—	—
	2/26/2015	56,250	3,750	49.46	2/26/2025	—	—	—	—
	3/1/2016	58,437	26,563	25.18	3/1/2026	—	—	—	—
	3/1/2016	—	—	—	—	12,003	182,326	—	—
	2/23/2017	28,437	36,563	23.75	2/23/2027	—	—	—	—
	2/23/2017	—	—	—	—	20,001	303,815	—	—
	2/23/2017	—	—	—	—	—	—	55,000	835,450
	3/2/2018	—	100,000	21.00	3/2/2028	—	—	—	—
	3/2/2018	—	—	—	—	45,500	691,145	—	—
	3/2/2018	—	—	—	—	—	—	45,500	691,145

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Edward Myles	4/11/2016	17,500	(4)(5) 17,500	(4)(5) 24.58	4/11/2026	—	—	—	—
	4/11/2016	—	—	—	—	6,668	(4) 101,287	(4) —	—
	2/23/2017	8,750	11,250	23.75	2/23/2027	—	—	—	—
	2/23/2017	—	—	—	—	5,001	75,965	—	—
	2/23/2017	—	—	—	—	—	—	7,500	113,925
	3/2/2018	—	24,000	21.00	3/2/2028	—	—	—	—
	3/2/2018	—	—	—	—	10,000	151,900	—	—
	3/2/2018	—	—	—	—	—	—	10,000	151,900
J. Alan Butcher	4/30/2018	—	62,393	(4)(5) 20.55	4/30/2028	—	—	—	—
	4/30/2018	—	—	—	—	28,418	(4) 431,669	(4) —	—

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Nicholas Grund	1/4/2016	22,500(4)(5)	22,500(4)(5)	28.58	1/4/2026	—	—	—	—
	1/4/2016	—	—	—	—	10,669(4)	162,062(4)	—	—
	2/23/2017	10,937	14,063	23.75	2/23/2027	—	—	—	—
	2/23/2017	—	—	—	—	6,667	101,272	—	—
	2/23/2017	—	—	—	—	—	—	10,000	151,900
	3/2/2018	—	24,000	21.00	3/2/2028	—	—	—	—
	3/2/2018	—	—	—	—	10,000	151,900	—	—
	3/2/2018	—	—	—	—	—	—	12,000	182,280
Julie Krop, M.D.	6/1/2015	22,500(4)(5)	7,500 (4)(5)	68.81	6/1/2025	—	—	—	—
	3/1/2016	15,468	7,032	25.18	3/1/2026	—	—	—	—
	3/1/2016	—	—	—	—	3,001	45,585	—	—
	2/23/2017	8,750	11,250	23.75	2/23/2027	—	—	—	—
	2/23/2017	—	—	—	—	5,001	75,965	—	—
	2/23/2017	—	—	—	—	—	—	7,500	113,925
	3/2/2018	—	22,000	21.00	3/2/2028	—	—	—	—
	3/2/2018	—	—	—	—	13,000	197,470	—	—
	3/2/2018	—	—	—	—	—	—	12,000	182,280

Unless otherwise specified: (a) all option and RSU awards were granted under our 2007 Equity Incentive Plan; (b) all option awards have a ten-year term; (c) all option awards vest over four years from the grant date, with 25% vesting on the first anniversary of the grant date and the remainder vesting in equal quarterly installments over the next three years thereafter; and (d) all RSU awards vest in equal annual installments over a three-year period beginning on the first anniversary of the grant date. In addition, the exercise price for all stock option awards set forth in this table is the fair market value of a share of our common stock on the date of grant.

(1) Each RSU entitles the holder thereof to receive one share of our common stock for each RSU granted upon vesting or settlement. The market value is calculated by multiplying \$15.19, the closing price of a share of our common stock on the last trading day of 2018 (December 31, 2018) as reported on NASDAQ, by the number of unvested units.

(2) Each PSU entitles the holder thereof to receive one share of our common stock for each PSU granted upon vesting or settlement. The number of PSU shares earned under these awards is determined based on the TSR of our common stock relative to the TSR of the constituents of the Peer Group as of the beginning of the three year performance period, as applicable to each grant. The number of shares included in the table above represents the target shares awarded however; the final shares awarded can range from zero to 150% of the target award amount based on our final TSR relative to our Peer Group. The market value is calculated by multiplying \$15.19, the closing price of a share of our common stock on the last trading day of 2018 (December 31, 2018) as reported on NASDAQ, by the number of unvested units. In the event that a Sale Event (as defined in the 2007 Equity Incentive Plan) occurs prior to the end of a performance period, each PSU will be deemed earned with respect to the higher of (i) the target award, multiplied by a fraction, the numerator of which shall be the number of calendar days from the first day of the applicable performance period to the valuation date and the denominator of which shall be the number of days in the performance period or (ii) the number of PSUs based on the attainment level resulting from the index relative TSR return, calculated from the first day of the applicable performance period through the end of the calendar month immediately preceding the date of the Sale Event.

(3) Represents a new hire grant awarded outside of our stockholder approved equity plans in reliance on NASDAQ Listing Rule 5635(c)(4).

(4) This award vests in equal annual installments over a four-year period beginning on the first anniversary of the grant date.

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OPTION EXERCISES AND STOCK VESTED IN FISCAL 2018

The following table sets forth certain information regarding option exercises and stock vested during the year ended December 31, 2018 with respect to each of our named executive officers:

Name	Option Awards		Stock Awards	
	Number	Value	Number	Value
	of Shares	Realized	of Shares	Realized
	Acquired on Exercise	on Exercise	Acquired on Vesting	on Vesting
	Exercise(\$)		Vesting(\$)(1)	
	(#)		(#)	
William K. Heiden (2)	—	—	35,900	753,900
Edward Myles (3)	—	—	9,165	184,799
J. Alan Butcher	—	—	—	—
Nicholas Grund (4)	—	—	13,999	293,979
Julie Krop, M.D. (5)	—	—	12,834	261,079

(1) Unless otherwise specified, value is calculated by multiplying the number of underlying shares by the closing price of a share of our common stock on the vesting date.

Pursuant to certain RSU award arrangements and due to the timing of Company blackout periods, the delivery of certain shares to Mr. Heiden was deferred for a period of time past the vesting date. Therefore, the realized value of 35,900 RSUs was determined using the stock price on March 2, 2018, the date the shares underlying such RSUs were delivered.

Pursuant to certain RSU award arrangements and due to the timing of Company blackout periods, the delivery of certain shares to Mr. Myles was deferred for a period of time past the vesting date. Therefore, the realized value of 2,499 and 6,666 RSUs was determined using the stock price on March 2, 2018 and July 2, 2018, respectively, the dates the shares underlying such RSUs were delivered.

Pursuant to certain RSU award arrangements and due to the timing of Company blackout periods, the delivery of certain shares to Mr. Grund was deferred for a period of time past the vesting date. Therefore, the realized value of 13,999 RSUs was determined using the stock price on March 2, 2018, the date the shares underlying such RSUs were delivered.

Pursuant to certain RSU award arrangements and due to the timing of Company blackout periods, the delivery of certain shares to Dr. Krop was deferred for a period of time past the vesting date. Therefore, the realized value of 5,499 and 7,335 RSUs was determined using the stock price on March 2, 2018 and July 2, 2018, respectively, the dates the shares underlying such RSUs were delivered.

CHANGE OF CONTROL AND SEVERANCE COMPENSATION

Benefits Provided Upon Termination Not in Connection with a Change of Control

We have entered into employment agreements with all of our named executive officers, which provide certain benefits to our executive officers in the event of certain terminations of employment not in connection with a change of control. Our philosophy is that appropriate provision should be made for our executive officers in the event of a termination of their employment with us without cause or if they resign for good reason. We believe that providing such severance compensation encourages our executives to exercise independent business judgment in what they believe to be in the best interests of the Company and those of our stockholders without concern of being terminated without appropriate compensation. We also believe that these mutually-agreed to severance arrangements are appropriate because they are necessary to recruit, retain and motivate key executive talent. Accordingly, our named executive officer's employment agreements provide the following severance benefits, in the event of a termination of employment of the named executive officer, other than for death, disability or cause, or he or she resigns for good reason, and he or she has complied with all his or her obligations under all agreements with us and signs a general

release of claims in a form acceptable to us:

- An amount equal to 12 months (or 24 months in the case of our Chief Executive Officer) of his or her then current base salary paid in equal installments over the severance period in accordance with our usual payroll schedule; and
- All time-based stock options and other time-based equity awards which would have vested if the named executive officer had been employed for an additional 12 months (or 24 months in the case of our Chief Executive Officer) following the date of termination.

Table of Contents**Benefits Provided Upon Termination in Connection with a Change of Control**

Our change of control compensation arrangements are designed to align to our philosophy that appropriate provision should be made for our executive officers both upon the occurrence of a change of control of the Company and in the event their employment is terminated within one year following such a change of control. We believe that providing severance compensation if an executive officer is terminated as a result of a change of control promotes the ability of our executives to act in the best interests of our stockholders even where a transformative transaction may result in termination of the executive's employment. We also believe that these mutually-agreed to severance arrangements are appropriate because they are necessary to recruit, retain and motivate key executive talent.

In the event that upon a change of control, the Company or the successor to or acquirer of the Company's business elects not to assume all the then unvested outstanding stock options, RSUs and other equity incentives that were granted to the executive officer prior to the change of control, such securities will become vested in full as of the date of the change of control; provided that any PSUs shall be deemed earned and vested in accordance with their terms. Further, in the event that within one year from the date a change of control of the Company occurs, we or our successor terminates the employment of our named executive officers other than for death, disability or cause, or he or she resigns for good reason, and he or she has complied with all his obligations under all agreements with us and signs a general release of claims in a form acceptable to us or our successor, then we or our successor are obligated to provide the executive with the following benefits post-termination pursuant to his or her employment agreement:

	Mr. Heiden	All Other Named Executive Officers
Base Salary (paid in equal installments over the severance period in accordance with our usual payroll schedule)	24 months	12 months
Annual Target Bonus (paid in a lump sum)	Two times target annual bonus amount for the year in which the change of control occurs.	One times target annual bonus amount for the year in which the change of control occurs.
Health and Dental Benefits (payment or reimbursement of the premiums for continued health and dental benefits)	Until the earlier of (a) 12 months following termination and (b) health and dental coverage being provided to Mr. Heiden under another employer's health and dental plans.	Until the earlier of (a) 24 months following termination and (b) health and dental coverage being provided to the executive under another employer's health and dental plans.
Vesting of Equity Awards	The full acceleration of vesting of any time-based unvested outstanding stock options, RSUs and other equity incentives that were granted before such change of control.	The full acceleration of vesting of any time-based unvested outstanding stock options, RSUs and other equity incentives that were granted before such change of control.

In addition, these employment agreements contain a provision which provides that any payments and benefits due to the executive in connection with a change of control that would otherwise be subject to an excise tax under Section 4999 of the Code shall be reduced, but only if such reduction would result in the executive retaining a larger portion of such payments on an after-tax basis than if no reduction was made and the excise taxes had been paid (a so-called modified cutback provision).

Benefits Provided in the Event of Death and Disability

The employment agreements of our named executive officers also provide that, in the event of the death or permanent disability of the executive, all unvested equity awards then held by such executive shall become immediately vested in full. In addition, in the event of his or her death, the executive's estate shall be eligible to receive a pro rata portion of his or her performance bonus for such year based upon the Board's determination of progress against corporate

performance objectives as of the time of such executive's death.

Other

Our named executive officers are also subject to the terms of a Non-Disclosure, Non-Competition, Non-Solicitation, and Invention Assignment Agreement with us, and the terms of these agreements survive the termination of the named executive officer's employment for a period of one year.

Table of Contents**POTENTIAL PAYMENTS UPON TERMINATION OR CHANGE OF CONTROL**

The table below sets forth the estimated amount of payments and other benefits each named executive officer would have been entitled to receive upon the occurrence of the indicated event, assuming that the event occurred on December 31, 2018. The information is provided relative to the named executive officer's termination or change of control policies or arrangements in place on such date. The values relating to vesting of stock options, RSU and PSU awards are based upon a per share fair market value of our common stock of \$15.19, the closing price of a share of our common stock as reported on NASDAQ on December 31, 2018. Actual payments made at any future date will fluctuate based on various factors, including salary and bonus levels, the vesting schedules of the various equity-based awards, and the price of our common stock at the time of termination or change of control.

Name	Salary and Other Cash Payments \$(1)	Vesting of Stock Options \$(2)	Vesting of RSUs \$(3)	Vesting of PSUs \$(3)	Health and Dental Benefits (\$)	Total (\$)
William K. Heiden						
Termination without cause or resignation for good reason other than in the context of a change of control	1,533,000	—	946,853	—	—	2,479,853
Termination without cause or resignation for good reason within 12 months following a change of control(4)	2,836,050	—	1,177,286	707,646	22,516	4,743,498
Termination upon death	879,600	—	1,177,286	—	—	2,056,886
Termination upon disability	—	—	1,177,286	—	—	1,177,286
Edward Myles						
Termination without cause or resignation for good reason other than in the context of a change of control	444,100	—	189,890	—	—	633,990
Termination without cause or resignation for good reason within 12 months following a change of control(4)	643,945	—	329,152	112,503	45,032	1,130,632
Termination upon death	323,700	—	329,152	—	—	652,852
Termination upon disability	—	—	329,152	—	—	329,152
J. Alan Butcher						
Termination without cause or resignation for good reason other than in the context of a change of control	450,000	—	143,880	—	—	593,880
Termination without cause or resignation for good reason within 12 months following a change of control(4)	652,500	—	431,669	—	45,032	1,129,201
Termination upon death	202,410	—	431,669	—	—	634,079
Termination upon disability	—	—	431,669	—	—	431,669
Nicholas Grund						
Termination without cause or resignation for good reason other than in the context of a change of control	477,400	—	263,319	—	—	740,719

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Termination without cause or resignation for good reason within 12 months following a change of control(4)	716,100	—415,234	144,381	26,726	1,302,441
Termination upon death	306,100	—415,234	—	—	721,334
Termination upon disability	—	—415,234	—	—	415,234

Julie Krop, M.D.

Termination without cause or resignation for good reason other than in the context of a change of control	457,600	—149,363	—	—	606,963
Termination without cause or resignation for good reason within 12 months following a change of control(4)	663,520	—319,020	120,937	—	1,103,477
Termination upon death	305,800	—319,020	—	—	624,820
Termination upon disability	—	—319,020	—	—	319,020

(1) Amount represents the contractual amounts payable under the executive's employment agreement as described above, assuming the base salary and target bonus in effect as of December 31, 2018.

(2) The amount shown in this column represents the difference between the exercise price and the fair market value of the accelerated options assuming a \$15.19 fair market value of a share of our common stock based on the reported closing price on NASDAQ on December 31, 2018. Any option with an exercise price of greater than \$15.19 was assumed to be canceled for no consideration and, therefore, had no intrinsic value.

(3) The amount shown in this column was calculated by multiplying the executive's number of unvested RSU and PSU shares at December 31, 2018 scheduled to vest upon the specified event by \$15.19, the fair market value of a single share of our common stock on December 31, 2018. For purposes of this table, we have assumed that the number of PSU shares that would vest upon termination within 12 months of a change in control is the target amount as prorated by the number of days from the beginning of the performance measurement period to December 31, 2018 over the total number of days in the performance measurement period.

(4) In the event the executive would become subject to an excise tax under Section 4999 of the Code imposed on parachute payments (within the meaning of 280G of the Code), the amounts payable as described above in connection with a change in control would be reduced to the level so that the excise tax will not apply, but only if such reduction would result in a greater after-tax amount to the executive.

CEO PAY RATIO

AMAG's compensation and benefits philosophy and the overall structure of our compensation and benefit programs encourage and reward all employees who contribute to our success. We strive to ensure that the pay of every employee reflects the level of their job impact and responsibilities and is competitive within our peer group. Compensation rates are benchmarked and set to be market-competitive. As required by Section 953(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and Item 402(u) of Regulation S-K (the "CEO Pay Ratio Rule"), we identified our median compensated employee using a "Consistently Applied Compensation Measure", which we believe closely approximates the annual total direct compensation for our employees. Specifically, we identified our median employee by calculating the sum of annual base pay, bonus opportunity at target and the grant date fair value for standard equity awards for all of our employees, excluding Mr. Heiden, who were employed by us on October 2, 2018. We annualized the base salary and target bonus of all permanent employees who were hired in 2018 but did not work the entire year. However, we did not perform adjustments to the compensation paid to part-time employees to calculate what they would have been paid on a full-time basis. After identifying the median compensated employee, we calculated the total annual compensation for this employee by using the same methodology we use for our named executive officers as disclosed in the Summary Compensation Table above.

The annual total compensation of our Chief Executive Officer, Mr. Heiden, as reported in the Summary Compensation Table was \$4,966,215. The annual total compensation of our median compensated employee was \$195,142, resulting

in a ratio of 25:1, which is below the 25th percentile of the Company's peer group. This ratio and annual total compensation amounts are reasonable estimates that have been calculated using methodologies and assumptions permitted by SEC rules. This information

is being provided for compliance purposes. Neither the Compensation Committee nor management of the Company used the pay ratio measure in making compensation decisions. In light of the different assumptions, estimates, methodologies, and adjustments that companies may apply in compliance with the CEO Pay Ratio Rule, this information should not be used as a basis for comparison between different companies.

Table of Contents**PROPOSAL 4: RATIFICATION OF APPOINTMENT OF
INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Our Audit Committee has appointed the firm of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent registered public accounting firm for the year ending December 31, 2019, and the Board has ratified such appointment. The Board has directed that management submit the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for ratification by our stockholders at the Annual Meeting.

PricewaterhouseCoopers LLP or its predecessor has served as our independent registered public accounting firm since our inception in 1981. Representatives of PricewaterhouseCoopers LLP are expected to be at the Annual Meeting, will have an opportunity to make a statement if they so desire, and will be available to respond to appropriate questions. Stockholder ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm is not required by our by-laws or otherwise. However, the Board is submitting this appointment to the stockholders for ratification as a matter of good corporate practice. In the event our stockholders fail to ratify the appointment of PricewaterhouseCoopers LLP, the Audit Committee will not be required to replace PricewaterhouseCoopers LLP as our independent registered public accounting firm. In the event of such a failure to ratify, the Audit Committee and the Board will reconsider whether or not to retain that firm for future service. Even if the appointment is ratified, the Audit Committee in its discretion may direct the appointment of a different independent registered public accounting firm at any time if the Audit Committee determines that such a change would be in our and our stockholders' best interests.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table summarizes the fees billed for professional services by PricewaterhouseCoopers LLP for the years ended December 31, 2018 and 2017:

Fee Category	Year Ended December 31, 2018	Year Ended December 31, 2017
Audit Fees(1)	\$ 2,963,500	\$ 2,425,700
Audit-Related Fees(2)	46,500	55,000
All Other Fees(3)	2,700	2,756
Total	\$ 3,012,700	\$ 2,483,456

Audit fees consisted of fees for the audit of our financial statements, the review of our interim financial statements included in our quarterly reports on Form 10-Q, review of and consents for our registration statements and filings, comfort letters and related services that are normally provided in connection with regulatory filings or

- (1) engagements. In addition, \$811,500 was included in Audit Fees for services related to carve-out audits performed in conjunction with the August 2018 divestiture of our Cord Blood Registry ("CBR") business. Additional amounts, which are not expected to be material, are being discussed and have not been finalized as of the date of this proxy statement.

Audit-related fees consisted of fees primarily related to the CBR divestiture and the Company's adoption of

- (2) Accounting Standards Update No. 2016-02, Leases (Topic 842). All audit-related fees were approved by the Audit Committee.

- (3) All other fees represents payment for access to the PricewaterhouseCoopers LLP on-line accounting and disclosure database. These fees were approved by the Audit Committee.

In connection with the audit of our 2018 financial statements, we entered into an engagement agreement with PricewaterhouseCoopers LLP, which sets forth the terms by which PricewaterhouseCoopers LLP would perform our audit services.

All services expected to be rendered by PricewaterhouseCoopers LLP in 2019 are permissible under applicable laws and regulations, and are expected to be pre-approved by the Audit Committee. The Audit Committee also expects to

approve certain non-audit services to be performed by PricewaterhouseCoopers LLP in 2019.

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PRE-APPROVAL POLICIES AND PROCEDURES

Consistent with policies of the SEC regarding auditor independence, the Audit Committee has responsibility for appointing, setting compensation and overseeing the work of our independent registered public accounting firm. The Audit Committee has approved the engagement of PricewaterhouseCoopers LLP as our independent registered public accounting firm and has approved the provision of certain specific non-audit services expected to be performed by PricewaterhouseCoopers LLP in 2019. In addition, circumstances may arise during the year necessitating the engagement of PricewaterhouseCoopers LLP for additional audit or permissible non-audit services. In those instances, under our current pre-approval policy, each member of the Audit Committee has the authority to approve any additional audit services and permissible non-audit services provided that such member promptly informs the Audit Committee of such approval.

Required Vote

The affirmative vote of the holders of a majority of the shares of our common stock present or represented and voting at the Annual Meeting is required to ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2019.

OUR BOARD UNANIMOUSLY RECOMMENDS A VOTE “FOR” THE APPROVAL OF THE RATIFICATION OF THE APPOINTMENT OF PRICEWATERHOUSECOOPERS LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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OTHER MATTERS

The Board knows of no other matters to be brought before the Annual Meeting. If any other matters are properly brought before the Annual Meeting, the persons appointed in the accompanying proxy intend to vote the shares represented thereby in accordance with their best judgment on such matters, under applicable laws.

STOCKHOLDER PROPOSALS

Stockholder proposals may be included in our proxy statement for an annual meeting of stockholders so long as they are provided to us on a timely basis and are otherwise submitted in accordance with SEC regulations under Rule 14a-8 under the Exchange Act regarding the inclusion of stockholder proposals in company-sponsored proxy materials. To be considered for inclusion in next year's proxy materials, your proposal must be submitted in writing to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Secretary and must be received by us no later than December 14, 2019. Proposals must comply with the procedures and satisfy the conditions set forth in Rule 14a-8 under the Exchange Act.

If you wish to nominate a candidate for director or submit a proposal that is not intended to be included in our proxy materials for next year's annual meeting of stockholders, you must submit such proposal or nomination in writing to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Secretary. Such proposal or nomination must be received by us no earlier than January 17, 2020 and no later than February 16, 2020 and must satisfy the requirements set forth in our by-laws. If the date of our 2020 annual meeting of stockholders is advanced by more than 30 days or delayed by more than 30 days from the anniversary of our 2019 Annual Meeting, any stockholder nomination or other proposal must be received by us no earlier than the close of business on the 120th day prior to such advanced or delayed annual meeting date and no later than the close of business on the later of (1) the 90th day prior to such advanced or delayed annual meeting date and (2) the 10th day following the first public announcement of the meeting date.

In order to curtail controversy as to the date on which a proposal was received by us, we suggest that you submit your proposals by registered mail, return receipt requested.

We have not received any stockholder nominations or any other proposals from our stockholders with respect to our 2019 Annual Meeting.

EXPENSES AND SOLICITATION

We will bear all costs of solicitation of proxies. In addition to these proxy materials, our directors, officers and employees, without additional remuneration, may also solicit proxies through telephone, e-mail and in-person conversations. We will also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

DELIVERY OF DOCUMENTS TO STOCKHOLDERS SHARING AN ADDRESS

In order to reduce printing and postage costs, Broadridge, which handles the mailing of our Annual Report and proxy materials to all of our stockholders, participates in the practice of "householding" proxy statements and annual reports, which is the delivery of a single set of such annual meeting materials to two or more stockholders sharing the same address. This means that unless contrary instructions are received from one or more of such stockholders, only one copy of our Notice and Proxy Statement and our Annual Report is sent to multiple beneficial stockholders who share the same address. Each stockholder will continue to receive a separate proxy card.

Once you have received notice from your Nominee that it will be householding communications to your address, householding will continue until you are notified otherwise or until you revoke your consent.

If, at any time, you no longer wish to participate in householding and would prefer to receive a separate set of annual meeting materials, you should contact our Investor Relations Department at (617) 498-3300 or AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Investor Relations. We will undertake to deliver promptly upon written or oral request a separate copy of the Notice and Proxy Statement and Annual Report, as applicable, to a security holder at a shared address to which a single copy of the documents was delivered. You may also contact Broadridge or your bank, broker or other custodian to request individual copies of any of these materials for each stockholder at such shared address. Stockholders who currently receive multiple copies of our Notice and Proxy Statement and Annual Report at their address and would like to request householding of their

communications should contact their broker.

We do not provide for householding for stockholders of record.

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The Board welcomes stockholders who wish to attend the Annual Meeting. Whether or not you plan to attend, you are urged to complete and deliver a proxy by one of the methods provided in the enclosed proxy card. A prompt response will greatly facilitate arrangements for the Annual Meeting, and your cooperation will be appreciated. Stockholders who attend the Annual Meeting may vote their stock personally even though they have sent in their proxies. Copies of the Proxy Statement, AMAG's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and any other proxy materials are available without charge on our website at www.amagpharma.com under "Investors" or upon written request to our principal executive offices at AMAG Pharmaceuticals, Inc., 1100 Winter Street, Waltham, Massachusetts 02451, Attention: Investor Relations.

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Appendix A
AMAG PHARMACEUTICALS, INC.
2019 EQUITY INCENTIVE PLAN

SECTION 1. GENERAL PURPOSE OF THE PLAN; DEFINITIONS

The name of the plan is the AMAG Pharmaceuticals, Inc. 2019 Equity Incentive Plan (the “Plan”). The purpose of the Plan is to encourage and enable the officers, employees, Non-Employee Directors and Consultants of AMAG Pharmaceuticals, Inc., a Delaware corporation (the “Company”) and its Subsidiaries upon whose judgment, initiative and efforts the Company largely depends for the successful conduct of its business to acquire a proprietary interest in the Company. It is anticipated that providing such persons with a direct stake in the Company’s welfare will assure a closer identification of their interests with those of the Company and its stockholders, thereby stimulating their efforts on the Company’s behalf and strengthening their desire to remain with the Company.

The following terms shall be defined as set forth below:

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

“Administrator” means either the Board or the Compensation Committee of the Board or a similar committee performing the functions of the compensation committee and which is comprised of not less than two Non-Employee Directors who are independent.

“Award” or “Awards,” except where referring to a particular category of grant under the Plan, shall include Incentive Stock Options, Non-Qualified Stock Options, Stock Appreciation Rights, Restricted Stock Units, Restricted Stock Awards, Unrestricted Stock Awards, Cash-Based Awards, Performance Share Awards and Dividend Equivalent Rights.

“Award Certificate” means a written or electronic document setting forth the terms and provisions applicable to an Award granted under the Plan. Each Award Certificate is subject to the terms and conditions of the Plan.

“Board” means the Board of Directors of the Company.

“Cash-Based Award” means an Award entitling the recipient to receive a cash-denominated payment.

“Code” means the Internal Revenue Code of 1986, as amended, and any successor Code, and related rules, regulations and interpretations.

“Consultant” means any natural person that provides bona fide services to the Company, and such services are not in connection with the offer or sale of securities in a capital-raising transaction and do not directly or indirectly promote or maintain a market for the Company’s securities.

“Dividend Equivalent Right” means an Award entitling the grantee to receive credits based on cash dividends that would have been paid on the shares of Stock specified in the Dividend Equivalent Right (or other award to which it relates) if such shares had been issued to and held by the grantee.

“Effective Date” means the date on which the Plan is approved by stockholders as set forth in Section 20.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder.

“Fair Market Value” of the Stock on any given date means the fair market value of the Stock determined in good faith by the Administrator; provided, however, that if the Stock is admitted to quotation on the National Association of Securities Dealers Automated Quotation System (“NASDAQ”), NASDAQ Global Market or another national securities exchange, the determination shall be made by reference to market quotations. If there are no market quotations for such date, the determination shall be made by reference to the last date preceding such date for which there are market quotations. Notwithstanding the foregoing, the determination of Fair Market Value for purposes of tax withholding may be made in the Administrator’s discretion subject to applicable law and is not required to be consistent with the determination of Fair Market Value for other purposes.

“Incentive Stock Option” means any Stock Option designated and qualified as an “incentive stock option” as defined in Section 422 of the Code.

“Non-Employee Director” means a member of the Board who is not also an employee of the Company or any Subsidiary.

“Non-Qualified Stock Option” means any Stock Option that is not an Incentive Stock Option.

“Option” or “Stock Option” means any option to purchase shares of Stock granted pursuant to Section 5.

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“Performance Criteria” means the criteria that the Administrator selects for purposes of establishing the Performance Goal or Performance Goals for an individual for a Performance Cycle.

“Performance Cycle” means one or more periods of time, which may be of varying and overlapping durations, as the Administrator may select, over which the attainment of one or more Performance Criteria will be measured for the purpose of determining a grantee’s right to and the payment of a Restricted Stock Award, Restricted Stock Units, Performance Share Award or Cash-Based Award, the vesting and/or payment of which is subject to the attainment of one or more Performance Goals.

“Performance Goals” means, for a Performance Cycle, the specific goals established in writing by the Administrator for a Performance Cycle based upon the Performance Criteria.

“Performance Share Award” means an Award entitling the recipient to acquire shares of Stock upon the attainment of specified Performance Goals.

“Restricted Stock Award” means an Award of shares of Stock subject to such restrictions and conditions as the Administrator may determine at the time of grant.

“Restricted Stock Units” means an Award of phantom stock units to a grantee.

“Sale Event” shall mean (i) the sale of all or substantially all of the assets of the Company on a consolidated basis to an unrelated person or entity, (ii) a merger, reorganization or consolidation pursuant to which the holders of the Company’s outstanding voting power and outstanding stock immediately prior to such transaction do not own a majority of the outstanding voting power and outstanding stock or other equity interests of the resulting or successor entity (or its ultimate parent, if applicable) immediately upon completion of such transaction, (iii) the sale of all of the Stock of the Company to an unrelated person, entity or group thereof acting in concert, or (iv) any other transaction in which the owners of the Company’s outstanding voting power immediately prior to such transaction do not own at least a majority of the outstanding voting power of the Company or any successor entity immediately upon completion of the transaction other than as a result of the acquisition of securities directly from the Company.

“Sale Price” means the value as determined by the Administrator of the consideration payable, or otherwise to be received by stockholders, per share of Stock pursuant to a Sale Event.

“Section 409A” means Section 409A of the Code and the regulations and other guidance promulgated thereunder.

“Stock” means the common stock of the Company, subject to adjustments pursuant to Section 3.

“Stock Appreciation Right” means an Award entitling the recipient to receive shares of Stock (or cash, to the extent explicitly provided for in the applicable Award Certificate) having a value equal to the excess of the Fair Market Value of the Stock on the date of exercise over the exercise price of the Stock Appreciation Right multiplied by the number of shares of Stock with respect to which the Stock Appreciation Right shall have been exercised.

“Subsidiary” means any corporation or other entity (other than the Company) in which the Company has at least a 50 percent interest, either directly or indirectly.

“Ten Percent Owner” means an employee who owns or is deemed to own (by reason of the attribution rules of Section 424(d) of the Code) more than 10 percent of the combined voting power of all classes of stock of the Company or any parent or subsidiary corporation.

“Unrestricted Stock Award” means an Award of shares of Stock free of any restrictions.

SECTION 2. ADMINISTRATION OF PLAN; ADMINISTRATOR AUTHORITY TO SELECT GRANTEES AND DETERMINE AWARDS

(a)Administration of Plan. The Plan shall be administered by the Administrator, provided that the amount, timing and terms of the grants of Awards to Non-Employee Directors shall be determined by the compensation committee or similar committee comprised solely of Non-Employee Directors.

(b)Powers of Administrator. The Administrator shall have the power and authority to grant Awards consistent with the terms of the Plan, including the power and authority:

(i)to select the individuals to whom Awards may from time to time be granted;

(ii)to determine the time or times of grant, and the extent, if any, of Incentive Stock Options, Non-Qualified Stock Options, Stock Appreciation Rights, Restricted Stock Awards, Restricted Stock Units, Unrestricted Stock

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Awards, Cash-Based Awards, Performance Share Awards and Dividend Equivalent Rights, or any combination of the foregoing, granted to any one or more grantees;

(iii) to determine the number of shares of Stock to be covered by any Award;

(iv) to determine and modify from time to time the terms and conditions, including restrictions, not inconsistent with the terms of the Plan, of any Award, which terms and conditions may differ among individual Awards and grantees, and to approve the forms of Award Certificates;

(v) to accelerate at any time the exercisability or vesting of all or any portion of any Award;

(vi) subject to the provisions of Section 5(b), to extend at any time the period in which Stock Options may be exercised; and

(vii) at any time to adopt, alter and repeal such rules, guidelines and practices for administration of the Plan and for its own acts and proceedings as it shall deem advisable; to interpret the terms and provisions of the Plan and any Award (including related written instruments); to make all determinations it deems advisable for the administration of the Plan; to decide all disputes arising in connection with the Plan; and to otherwise supervise the administration of the Plan.

All decisions and interpretations of the Administrator shall be binding on all persons, including the Company and Plan grantees.

(c) Delegation of Authority to Grant Awards. Subject to applicable law, the Administrator, in its discretion, may delegate to the Chief Executive Officer of the Company all or part of the Administrator's authority and duties with respect to the granting of Options and/or Restricted Stock Units to individuals who are not subject to the reporting and other provisions of Section 16 of the Exchange Act. Any such delegation by the Administrator shall include a limitation as to the amount of Options and/or Restricted Stock Units that may be granted during the period of the delegation and shall contain guidelines as to the determination of the exercise price and the vesting criteria. The Administrator may revoke or amend the terms of a delegation at any time but such action shall not invalidate any prior actions of the Administrator's delegate or delegates that were consistent with the terms of the Plan.

(d) Award Certificate. Awards under the Plan shall be evidenced by Award Certificates that set forth the terms, conditions and limitations for each Award which may include, without limitation, the term of an Award and the provisions applicable in the event employment or service terminates.

(e) Indemnification. Neither the Board nor the Administrator, nor any member of either or any delegate thereof, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with the Plan, and the members of the Board and the Administrator (and any delegate thereof) shall be entitled in all cases to indemnification and reimbursement by the Company in respect of any claim, loss, damage or expense (including, without limitation, reasonable attorneys' fees) arising or resulting therefrom to the fullest extent permitted by law and/or under the Company's articles or by-laws or any directors' and officers' liability insurance coverage which may be in effect from time to time and/or any indemnification agreement between such individual and the Company.

(f) Foreign Award Recipients. Notwithstanding any provision of the Plan to the contrary, in order to comply with the laws in other countries in which the Company and its Subsidiaries operate or have employees or other individuals eligible for Awards, the Administrator, in its sole discretion, shall have the power and authority to: (i) determine which Subsidiaries shall be covered by the Plan; (ii) determine which individuals outside the United States are eligible to participate in the Plan; (iii) modify the terms and conditions of any Award granted to individuals outside the United States to comply with applicable foreign laws; (iv) establish subplans and modify exercise procedures and other terms

and procedures, to the extent the Administrator determines such actions to be necessary or advisable (and such subplans and/or modifications shall be attached to this Plan as appendices); provided, however, that no such subplans and/or modifications shall increase the share limitations contained in Section 3(a) hereof; and (v) take any action, before or after an Award is made, that the Administrator determines to be necessary or advisable to obtain approval or comply with any local governmental regulatory exemptions or approvals. Notwithstanding the foregoing, the Administrator may not take any actions hereunder, and no Awards shall be granted, that would violate the Exchange Act or any other applicable United States securities law, the Code, or any other applicable United States governing statute or law.

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SECTION 3. STOCK ISSUABLE UNDER THE PLAN; MERGERS; SUBSTITUTION

(a)Stock Issuable. The maximum number of shares of Stock reserved and available for issuance under the Plan shall be 2,161,000 shares plus the number of shares remaining available for issuance under the Fourth Amended and Restated 2007 Equity Incentive Plan, as amended (the “2007 Equity Plan”) as of the Effective Date, subject to adjustment as provided in this Section 3. For purposes of this limitation, the shares of Stock underlying any Awards under the Plan as well as shares of Stock underlying any awards under the Company’s 2007 Equity Plan that are forfeited, canceled or otherwise terminated (other than by exercise) on or after the Effective Date shall be added back to the shares of Stock available for issuance under the Plan. Notwithstanding the foregoing, the following shares shall not be added to the shares authorized for grant under the Plan: (i) shares tendered or held back upon exercise of an Option or settlement of an Award to cover the exercise price or tax withholding, and (ii) shares subject to a Stock Appreciation Right that are not issued in connection with the stock settlement of the Stock Appreciation Right upon exercise thereof. In the event the Company repurchases shares of Stock on the open market, such shares shall not be added to the shares of Stock available for issuance under the Plan. Subject to such overall limitations, shares of Stock may be issued up to such maximum number pursuant to any type or types of Award; provided, however, that no more than 2,000,000 shares of the Stock may be issued in the form of Incentive Stock Options. The shares available for issuance under the Plan may be authorized but unissued shares of Stock or shares of Stock reacquired by the Company.

(b)Effect of Awards. The grant of any full value Award (i.e., an Award other than an Option or a Stock Appreciation Right) shall be deemed, for purposes of determining the number of shares of Stock available for issuance under Section 3(a), as an Award of 1.7 shares of Stock for each such share of Stock actually subject to the Award. The grant of an Option or a Stock Appreciation Right shall be deemed, for purposes of determining the number of shares of Stock available for issuance under Section 3(a), as an Award for one share of Stock for each such share of Stock actually subject to the Award. Any forfeitures, cancellations or other terminations (other than by exercise) of such Awards shall be returned to the reserved pool of shares of Stock under the Plan in the same manner.

(c)Changes in Stock. Subject to Section 3(d) hereof, if, as a result of any reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other similar change in the Company’s capital stock, the outstanding shares of Stock are increased or decreased or are exchanged for a different number or kind of shares or other securities of the Company, or additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Stock or other securities, or, if, as a result of any merger or consolidation, sale of all or substantially all of the assets of the Company, the outstanding shares of Stock are converted into or exchanged for securities of the Company or any successor entity (or a parent or subsidiary thereof), the Administrator shall make an appropriate or proportionate adjustment in (i) the maximum number of shares reserved for issuance under the Plan, including the maximum number of shares that may be issued in the form of Incentive Stock Options, (ii) the number and kind of shares or other securities subject to any then outstanding Awards under the Plan, (iii) the repurchase price, if any, per share subject to each outstanding Restricted Stock Award, and (iv) the exercise price for each share subject to any then outstanding Stock Options and Stock Appreciation Rights under the Plan, without changing the aggregate exercise price (i.e., the exercise price multiplied by the number of Stock Options and Stock Appreciation Rights) as to which such Stock Options and Stock Appreciation Rights remain exercisable. The Administrator shall also make equitable or proportionate adjustments in the number of shares subject to outstanding Awards and the exercise price and the terms of outstanding Awards to take into consideration cash dividends paid other than in the ordinary course or any other extraordinary corporate event. The adjustment by the Administrator shall be final, binding and conclusive. No fractional shares of Stock shall be issued under the Plan resulting from any such adjustment, but the Administrator in its discretion may make a cash payment in lieu of fractional shares.

(d)Mergers and Other Transactions. Except as the Administrator may otherwise specify with respect to particular Awards in the relevant Award Certificate, in the case of and subject to the consummation of a Sale Event, the parties thereto may cause the assumption or continuation of Awards theretofore granted by the successor entity, or the substitution of such Awards with new Awards of the successor entity or parent thereof, with appropriate adjustment as to the number and kind of shares and, if appropriate, the per share exercise prices, as such parties shall agree. To the extent the parties to such Sale Event do not provide for the assumption, continuation or substitution of Awards, upon the effective time of the Sale Event, the Plan and all outstanding Awards granted hereunder shall terminate. In such case, except as may be otherwise provided in the relevant Award Certificate, all Options and Stock Appreciation Rights with time-based vesting that are not vested and/or exercisable immediately prior to the effective time of the Sale Event shall become fully vested and exercisable as of the effective time of the Sale Event, all other Awards with time-based vesting, conditions or restrictions shall become fully vested and nonforfeitable as of the effective time of the Sale Event, and all Awards with conditions and restrictions relating to the attainment of Performance Goals shall be deemed to vest and become nonforfeitable as of the Sale Event assuming the higher of (i) achievement of all relevant Performance Goals at the "target" level (prorated based upon the length of time within the Performance Period that has elapsed prior the Sale Event) or (ii) actual achievement as of the date of such Sale Event. In the

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event of such termination, (i) the Company shall have the option (in its sole discretion) to make or provide for a payment, in cash or in kind, to the grantees holding Options and Stock Appreciation Rights, in exchange for the cancellation thereof, in an amount equal to the difference between (A) the Sale Price multiplied by the number of shares of Stock subject to outstanding Options and Stock Appreciation Rights (to the extent then exercisable at prices not in excess of the Sale Price) and (B) the aggregate exercise price of all such outstanding Options and Stock Appreciation Rights (provided that, in the case of an Option or Stock Appreciation Right with an exercise price equal to or less than the Sale Price, such Option or Stock Appreciation Right shall be cancelled for no consideration); or (ii) each grantee shall be permitted, within a specified period of time prior to the consummation of the Sale Event as determined by the Administrator, to exercise all outstanding Options and Stock Appreciation Rights (to the extent then exercisable) held by such grantee. The Company shall also have the option (in its sole discretion) to make or provide for a payment, in cash or in kind, to the grantees holding other Awards in an amount equal to the Sale Price multiplied by the number of vested shares of Stock under such Awards.

(e)Substitute Awards. The Administrator may grant Awards under the Plan in substitution for stock and stock based awards held by employees, directors or other key persons of another corporation in connection with the merger or consolidation of the employing corporation with the Company or a Subsidiary or the acquisition by the Company or a Subsidiary of property or stock of the employing corporation. The Administrator may direct that the substitute awards be granted on such terms and conditions as the Administrator considers appropriate in the circumstances. Any substitute Awards granted under the Plan shall not count against the share limitation set forth in Section 3(a).

(f)Maximum Awards to Non-Employee Directors. Notwithstanding anything to the contrary in this Plan, the value of all Awards awarded under this Plan and all other cash compensation paid by the Company to any Non-Employee Director in any calendar year shall not exceed \$750,000 for the first year of service and \$500,000 for each year of service thereafter. For the purpose of this limitation, the value of any Award shall be its grant date fair value, as determined in accordance with ASC 718 or successor provision but excluding the impact of estimated forfeitures related to service-based vesting provisions.

SECTION 4. ELIGIBILITY

Grantees under the Plan will be such full or part-time officers and other employees, Non-Employee Directors and Consultants of the Company and its Subsidiaries as are selected from time to time by the Administrator in its sole discretion.

SECTION 5. STOCK OPTIONS

Any Stock Option granted under the Plan shall be in such form as the Administrator may from time to time approve.

Stock Options granted under the Plan may be either Incentive Stock Options or Non-Qualified Stock Options.

Incentive Stock Options may be granted only to employees of the Company or any Subsidiary that is a “subsidiary corporation” within the meaning of Section 424(f) of the Code. To the extent that any Option does not qualify as an Incentive Stock Option, it shall be deemed a Non-Qualified Stock Option.

Stock Options granted pursuant to this Section 5 shall be subject to the following terms and conditions and shall contain such additional terms and conditions, not inconsistent with the terms of the Plan, as the Administrator shall deem desirable. If the Administrator so determines, Stock Options may be granted in lieu of cash compensation at the optionee’s election, subject to such terms and conditions as the Administrator may establish.

(a)Exercise Price. The exercise price per share for the Stock covered by a Stock Option granted pursuant to this Section 5 shall be determined by the Administrator at the time of grant but shall not be less than 100 percent of the Fair Market Value on the date of grant. In the case of an Incentive Stock Option that is granted to a Ten Percent Owner, the option price of such Incentive Stock Option shall be not less than 110 percent of the Fair Market Value on the grant date.

(b)Option Term. The term of each Stock Option shall be fixed by the Administrator, but no Stock Option shall be exercisable more than ten years after the date the Stock Option is granted. In the case of an Incentive Stock Option

that is granted to a Ten Percent Owner, the term of such Stock Option shall be no more than five years from the date of grant.

(c)Exercisability; Rights of a Stockholder. Stock Options shall become exercisable at such time or times, whether or not in installments, as shall be determined by the Administrator at or after the grant date. The Administrator may at any time accelerate the exercisability of all or any portion of any Stock Option. An optionee shall have the rights of a stockholder only as to shares acquired upon the exercise of a Stock Option and not as to unexercised Stock Options.

(d)Method of Exercise. Stock Options may be exercised in whole or in part, by giving written or electronic notice of exercise to the Company, specifying the number of shares to be purchased. Payment of the purchase price may be made by one or more of the following methods except to the extent otherwise provided in the Option Award Certificate:

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(i) In cash, by certified or bank check or other instrument acceptable to the Administrator;

(ii) Through the delivery (or attestation to the ownership) of shares of Stock that are not then subject to restrictions under any Company plan. Such surrendered shares shall be valued at Fair Market Value on the exercise date;

(iii) By the optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company for the purchase price; provided that in the event the optionee chooses to pay the purchase price as so provided, the optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Administrator shall prescribe as a condition of such payment procedure; or

(iv) With respect to Stock Options that are not Incentive Stock Options, by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price.

Payment instruments will be received subject to collection. The transfer to the optionee on the records of the Company or of the transfer agent of the shares of Stock to be purchased pursuant to the exercise of a Stock Option will be contingent upon receipt from the optionee (or a purchaser acting in his stead in accordance with the provisions of the Stock Option) by the Company of the full purchase price for such shares and the fulfillment of any other requirements contained in the Option Award Certificate or applicable provisions of laws (including the satisfaction of any withholding taxes that the Company is obligated to withhold with respect to the optionee). In the event an optionee chooses to pay the purchase price by previously-owned shares of Stock through the attestation method, the number of shares of Stock transferred to the optionee upon the exercise of the Stock Option shall be net of the number of attested shares. In the event that the Company establishes, for itself or using the services of a third party, an automated system for the exercise of Stock Options, such as a system using an internet website or interactive voice response, then the paperless exercise of Stock Options may be permitted through the use of such an automated system.

(e) Annual Limit on Incentive Stock Options. To the extent required for “incentive stock option” treatment under Section 422 of the Code, the aggregate Fair Market Value (determined as of the time of grant) of the shares of Stock with respect to which Incentive Stock Options granted under this Plan and any other plan of the Company or its parent and subsidiary corporations become exercisable for the first time by an optionee during any calendar year shall not exceed \$100,000. To the extent that any Stock Option exceeds this limit, it shall constitute a Non-Qualified Stock Option.

SECTION 6. STOCK APPRECIATION RIGHTS

(a) Exercise Price of Stock Appreciation Rights. The exercise price of a Stock Appreciation Right shall not be less than 100 percent of the Fair Market Value of the Stock on the date of grant.

(b) Grant and Exercise of Stock Appreciation Rights. Stock Appreciation Rights may be granted by the Administrator independently of any Stock Option granted pursuant to Section 5 of the Plan.

(c) Terms and Conditions of Stock Appreciation Rights. Stock Appreciation Rights shall be subject to such terms and conditions as shall be determined from time to time by the Administrator. The term of a Stock Appreciation Right may not exceed ten years.

SECTION 7. RESTRICTED STOCK AWARDS

(a) Nature of Restricted Stock Awards. The Administrator shall determine the restrictions and conditions applicable to each Restricted Stock Award at the time of grant. Conditions may be based on continuing employment (or other service relationship) and/or achievement of pre-established Performance Goals. The terms and conditions of each such

Award Certificate shall be determined by the Administrator, and such terms and conditions may differ among individual Awards and grantees.

(b)Rights as a Stockholder. Upon the grant of the Restricted Stock Award and payment of any applicable purchase price, a grantee shall have the rights of a stockholder with respect to the voting of the Restricted Stock and receipt of dividends; provided that any dividends paid by the Company during the vesting period shall accrue and shall not be paid unless and until the shares of Restricted Stock have vested. Unless the Administrator shall otherwise determine, (i) uncertificated Restricted Stock shall be accompanied by a notation on the records of the Company or the transfer agent to the effect that they are subject to forfeiture until such Restricted Stock are vested as provided in Section 7(d) below, and (ii) certificated Restricted

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Stock shall remain in the possession of the Company until such Restricted Stock is vested as provided in Section 7(d) below, and the grantee shall be required, as a condition of the grant, to deliver to the Company such instruments of transfer as the Administrator may prescribe.

(c)Restrictions. Restricted Stock may not be sold, assigned, transferred, pledged or otherwise encumbered or disposed of except as specifically provided herein or in the Restricted Stock Award Certificate. Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 17 below, in writing after the Award is issued, if a grantee's employment (or other service relationship) with the Company and its Subsidiaries terminates for any reason, any Restricted Stock that has not vested at the time of termination shall automatically and without any requirement of notice to such grantee from or other action by or on behalf of, the Company be deemed to have been reacquired by the Company at its original purchase price (if any) from such grantee or such grantee's legal representative simultaneously with such termination of employment (or other service relationship), and thereafter shall cease to represent any ownership of the Company by the grantee or rights of the grantee as a stockholder. Following such deemed reacquisition of unvested Restricted Stock that are represented by physical certificates, a grantee shall surrender such certificates to the Company upon request without consideration.

(d)Vesting of Restricted Stock. The Administrator at the time of grant shall specify the date or dates and/or the attainment of pre-established Performance Goals and other conditions on which the non-transferability of the Restricted Stock and the Company's right of repurchase or forfeiture shall lapse. Subsequent to such date or dates and/or the attainment of such pre-established Performance Goals and other conditions, the shares on which all restrictions have lapsed shall no longer be Restricted Stock and shall be deemed "vested." Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 17 below, in writing after the Award is issued, a grantee's rights in any shares of Restricted Stock that have not vested shall automatically terminate upon the grantee's termination of employment (or other service relationship) with the Company and its Subsidiaries and such shares shall be subject to the provisions of Section 7(c) above.

SECTION 8. RESTRICTED STOCK UNITS

(a)Nature of Restricted Stock Units. The Administrator shall determine the restrictions and conditions applicable to each Restricted Stock Unit at the time of grant. Conditions may be based on continuing employment (or other service relationship) and/or achievement of pre-established Performance Goals. The terms and conditions of each such Award Certificate shall be determined by the Administrator, and such terms and conditions may differ among individual Awards and grantees. Except in the case of Restricted Stock Units with a deferred settlement date that complies with Section 409A, at the end of the vesting period, the Restricted Stock Units, to the extent vested, shall be settled in the form of shares of Stock. Restricted Stock Units with deferred settlement dates are subject to Section 409A and shall contain such additional terms and conditions as the Administrator shall determine in its sole discretion in order for such Award to comply with the requirements of Section 409A.

(b)Election to Receive Restricted Stock Units in Lieu of Compensation. The Administrator may, in its sole discretion, permit a grantee to elect to receive a portion of future cash compensation otherwise due to such grantee in the form of an award of Restricted Stock Units. Any such election shall be made in writing and shall be delivered to the Company no later than the date specified by the Administrator and in accordance with Section 409A and such other rules and procedures established by the Administrator. Any such future cash compensation that the grantee elects to defer shall be converted to a fixed number of Restricted Stock Units based on the Fair Market Value of Stock on the date the compensation would otherwise have been paid to the grantee if such payment had not been deferred as provided herein. The Administrator shall have the sole right to determine whether and under what circumstances to permit such elections and to impose such limitations and other terms and conditions thereon as the Administrator deems appropriate. Any Restricted Stock Units that are elected to be received in lieu of cash compensation shall be fully vested, unless otherwise provided in the Award Certificate.

(c)Rights as a Stockholder. A grantee shall have the rights as a stockholder only as to shares of Stock acquired by the grantee upon settlement of Restricted Stock Units; provided, however, that the grantee may be credited with Dividend Equivalent Rights with respect to the stock units underlying his Restricted Stock Units, subject to the provisions of Section 12 and such terms and conditions as the Administrator may determine.

(d)Termination. Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 17 below, in writing after the Award is issued, a grantee's right in all Restricted Stock Units that have not vested shall automatically terminate upon the grantee's termination of employment (or cessation of service relationship) with the Company and its Subsidiaries for any reason.

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SECTION 9. UNRESTRICTED STOCK AWARDS

Grant or Sale of Unrestricted Stock. The Administrator may, in its sole discretion, grant (or sell at par value or such higher purchase price determined by the Administrator) an Unrestricted Stock Award under the Plan. Unrestricted Stock Awards may be granted in respect of past services or other valid consideration, or in lieu of cash compensation due to such grantee.

SECTION 10. CASH-BASED AWARDS

Grant of Cash-Based Awards. The Administrator may, in its sole discretion, grant Cash-Based Awards to any grantee in such number or amount and upon such terms, and subject to such conditions, as the Administrator shall determine at the time of grant. The Administrator shall determine the maximum duration of the Cash-Based Award, the amount of cash to which the Cash-Based Award pertains, the conditions upon which the Cash-Based Award shall become vested or payable, and such other provisions as the Administrator shall determine. Each Cash-Based Award shall specify a cash-denominated payment amount, formula or payment ranges as determined by the Administrator. Payment, if any, with respect to a Cash-Based Award shall be made in accordance with the terms of the Award and may be made in cash or in shares of Stock, as the Administrator determines.

SECTION 11. PERFORMANCE SHARE AWARDS

(a)Nature of Performance Share Awards. The Administrator may, in its sole discretion, grant Performance Share Awards independent of, or in connection with, the granting of any other Award under the Plan. The Administrator shall determine whether and to whom Performance Share Awards shall be granted, the Performance Goals, the periods during which performance is to be measured, and such other limitations and conditions as the Administrator shall determine.

(b)Payment of Performance Share Awards. Following the completion of a Performance Cycle, the Administrator shall determine to what extent, the Performance Goals for the Performance Cycle have been achieved and, if so, to also calculate the amount of the Performance Share Awards earned for the Performance Cycle.

(c)Rights as a Stockholder. A grantee receiving a Performance Share Award shall have the rights of a stockholder only as to shares actually received by the grantee under the Plan and not with respect to shares subject to the Award but not actually received by the grantee. A grantee shall be entitled to receive shares of Stock under a Performance Share Award only upon satisfaction of all conditions specified in the Performance Share Award Certificate (or in a performance plan adopted by the Administrator).

(d)Termination. Except as may otherwise be provided by the Administrator either in the Award agreement or, subject to Section 17 below, in writing after the Award is issued, a grantee's rights in all Performance Share Awards shall automatically terminate upon the grantee's termination of employment (or cessation of service relationship) with the Company and its Subsidiaries for any reason.

SECTION 12. DIVIDEND EQUIVALENT RIGHTS

(a)Dividend Equivalent Rights. A Dividend Equivalent Right may be granted hereunder to any grantee as a component of an award of Restricted Stock Units or Performance Share Award or as a freestanding award. The terms and conditions of Dividend Equivalent Rights shall be specified in the Award Certificate. Dividend equivalents credited to the holder of a Dividend Equivalent Right may be paid concurrently with vesting of the underlying Award or may be deemed to be reinvested in additional shares of Stock, which may thereafter accrue additional equivalents. Any such reinvestment shall be at Fair Market Value on the date of reinvestment or such other price as may then apply under a dividend reinvestment plan sponsored by the Company, if any. Dividend Equivalent Rights may be settled in cash or shares of Stock or a combination thereof, in a single installment or installments. A Dividend Equivalent Right granted as a component of an Award with vesting shall provide that such Dividend Equivalent Right shall be settled only upon settlement or payment of, or lapse of restrictions on, such other Award, and that such Dividend Equivalent Right shall expire or be forfeited or annulled under the same conditions as such other Award.

(b)Interest Equivalents. Any Award under this Plan that is settled in whole or in part in cash on a deferred basis may provide in the grant for interest equivalents to be credited with respect to such cash payment. Interest equivalents may be compounded and shall be paid upon such terms and conditions as may be specified by the grant.

(c)Termination. Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 17 below, in writing after the Award is issued, a grantee's rights in all Dividend Equivalent Rights or interest equivalents granted as a component of an award of Restricted Stock Units or Performance Share Award that has not vested shall

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automatically terminate upon the grantee's termination of employment (or cessation of service relationship) with the Company and its Subsidiaries for any reason.

SECTION 13. TRANSFERABILITY OF AWARDS

(a)Transferability. Except as provided in Section 13(b) below, during a grantee's lifetime, his or her Awards shall be exercisable only by the grantee, or by the grantee's legal representative or guardian in the event of the grantee's incapacity. No Awards shall be sold, assigned, transferred or otherwise encumbered or disposed of by a grantee other than by will or by the laws of descent and distribution or pursuant to a domestic relations order. No Awards shall be subject, in whole or in part, to attachment, execution, or levy of any kind, and any purported transfer in violation hereof shall be null and void.

(b) Administrator Action. Notwithstanding Section 13(a), the Administrator, in its discretion, may provide either in the Award Certificate regarding a given Award or by subsequent written approval that the grantee (who is an employee or director) may transfer his or her Non-Qualified Options to his or her immediate family members, to trusts for the benefit of such family members, or to partnerships in which such family members are the only partners, provided that the transferee agrees in writing with the Company to be bound by all of the terms and conditions of this Plan and the applicable Award. In no event may an Award be transferred by a grantee for value.

(c)Family Member. For purposes of Section 13(b), "family member" shall mean a grantee's child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, any person sharing the grantee's household (other than a tenant of the grantee), a trust in which these persons (or the grantee) have more than 50 percent of the beneficial interest, a foundation in which these persons (or the grantee) control the management of assets, and any other entity in which these persons (or the grantee) own more than 50 percent of the voting interests.

(d)Designation of Beneficiary. Each grantee to whom an Award has been made under the Plan may designate a beneficiary or beneficiaries to exercise any Award or receive any payment under any Award payable on or after the grantee's death. Any such designation shall be on a form provided for that purpose by the Administrator and shall not be effective until received by the Administrator. If no beneficiary has been designated by a deceased grantee, or if the designated beneficiaries have predeceased the grantee, the beneficiary shall be the grantee's estate.

SECTION 14. TAX WITHHOLDING

(a)Payment by Grantee. Each grantee shall, no later than the date as of which the value of an Award or of any Stock or other amounts received thereunder first becomes includable in the gross income of the grantee for Federal income tax purposes, pay to the Company, or make arrangements satisfactory to the Administrator regarding payment of, any Federal, state, or local taxes of any kind required by law to be withheld by the Company with respect to such income. The Company and its Subsidiaries shall, to the extent permitted by law, have the right to deduct any such taxes from any payment of any kind otherwise due to the grantee. The Company's obligation to deliver evidence of book entry (or stock certificates) to any grantee is subject to and conditioned on tax withholding obligations being satisfied by the grantee.

(b)Payment in Stock. Subject to approval by the Administrator, a grantee may elect to have the Company's tax withholding obligation satisfied, in whole or in part, by authorizing the Company to withhold from shares of Stock to be issued pursuant to any Award a number of shares with an aggregate Fair Market Value (as of the date the withholding is effected) that would satisfy the withholding amount due; provided, however, that the amount withheld does not exceed the maximum statutory tax rate or such lesser amount as is necessary to avoid adverse accounting treatment. The Administrator may also require Awards to be subject to mandatory share withholding up to the

required withholding amount. For purposes of share withholding, the Fair Market Value of withheld shares shall be determined in the same manner as the value of Stock includible in income of the Participants. The Administrator may also require the Company's tax withholding obligation to be satisfied, in whole or in part, by an arrangement whereby a certain number of shares of Stock issued pursuant to an Award are immediately sold and proceeds from such sale are remitted to the Company in an amount that would satisfy the withholding amount due.

SECTION 15. SECTION 409A AWARDS

Awards are intended to be exempt from Section 409A to the greatest extent possible and to otherwise comply with Section 409A. The Plan and all Awards shall be interpreted in accordance with such intent. To the extent that any Award is determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A (a "409A Award"), the Award shall be subject to such additional rules and requirements as specified by the Administrator from time to time in order to comply with Section 409A. In this regard, if any amount under a 409A Award is payable upon a "separation from

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service” (within the meaning of Section 409A) to a grantee who is then considered a “specified employee” (within the meaning of Section 409A), then no such payment shall be made prior to the date that is the earlier of (i) six months and one day after the grantee’s separation from service, or (ii) the grantee’s death, but only to the extent such delay is necessary to prevent such payment from being subject to interest, penalties and/or additional tax imposed pursuant to Section 409A. Further, the settlement of any such Award may not be accelerated except to the extent permitted by Section 409A.

SECTION 16. TERMINATION OF SERVICE RELATIONSHIP; TRANSFER, LEAVE OF ABSENCE, ETC.

(a) Termination of Service Relationship. If the grantee’s employment or service relationship is with a Subsidiary and such Subsidiary ceases to be a Subsidiary, the grantee shall be deemed to have terminated his or her employment or service relationship for purposes of the Plan.

(b) For purposes of the Plan, the following events shall not be deemed a termination of employment:

(i) a transfer to the employment of the Company from a Subsidiary or from the Company to a Subsidiary, or from one Subsidiary to another; or

(ii) an approved leave of absence for military service or sickness, or for any other purpose approved by the Company, if the employee’s right to re-employment is guaranteed either by a statute or by contract or under the policy pursuant to which the leave of absence was granted or if the Administrator otherwise so provides in writing.

SECTION 17. AMENDMENTS AND TERMINATION

The Board may, at any time, amend or discontinue the Plan and the Administrator may, at any time, amend or cancel any outstanding Award for the purpose of satisfying changes in law or for any other lawful purpose, but no such action shall materially and adversely affect rights under any outstanding Award without the holder’s consent. Except as provided in Section 3(c) or 3(d), without prior stockholder approval, in no event may the Administrator exercise its discretion to reduce the exercise price of outstanding Stock Options or Stock Appreciation Rights or effect repricing through cancellation and re-grants or cancellation of Stock Options or Stock Appreciation Rights in exchange for cash. To the extent required under the rules of any securities exchange or market system on which the Stock is listed, to the extent determined by the Administrator to be required by the Code to ensure that Incentive Stock Options granted under the Plan are qualified under Section 422 of the Code, Plan amendments shall be subject to approval by the Company stockholders entitled to vote at a meeting of stockholders. Nothing in this Section 17 shall limit the Administrator’s authority to take any action permitted pursuant to Section 3(c) or 3(d).

SECTION 18. STATUS OF PLAN

With respect to the portion of any Award that has not been exercised and any payments in cash, Stock or other consideration not received by a grantee, a grantee shall have no rights greater than those of a general creditor of the Company unless the Administrator shall otherwise expressly determine in connection with any Award or Awards. In its sole discretion, the Administrator may authorize the creation of trusts or other arrangements to meet the Company’s obligations to deliver Stock or make payments with respect to Awards hereunder, provided that the existence of such trusts or other arrangements is consistent with the foregoing sentence.

SECTION 19. GENERAL PROVISIONS

(a) No Distribution. The Administrator may require each person acquiring Stock pursuant to an Award to represent to and agree with the Company in writing that such person is acquiring the shares without a view to distribution thereof.

(b) Issuance of Stock. To the extent certificated, stock certificates to grantees under this Plan shall be deemed delivered for all purposes when the Company or a stock transfer agent of the Company shall have mailed such certificates in the United States mail, addressed to the grantee, at the grantee’s last known address on file with the Company. Uncertificated Stock shall be deemed delivered for all purposes when the Company or a Stock transfer agent of the Company shall have given to the grantee by electronic mail (with proof of receipt) or by United States mail, addressed to the grantee, at the grantee’s last known address on file with the Company, notice of issuance and

recorded the issuance in its records (which may include electronic “book entry” records). Notwithstanding anything herein to the contrary, the Company shall not be required to issue or deliver any evidence of book entry or certificates evidencing shares of Stock pursuant to the exercise or settlement of any Award, unless and until the Administrator has determined, with advice of counsel (to the extent the Administrator deems such advice necessary or advisable), that the issuance and delivery is in compliance with all applicable laws, regulations of governmental authorities and, if applicable, the requirements of any exchange on which the shares of Stock are listed, quoted or traded. All Stock issued pursuant to the Plan shall be subject to any stop-transfer orders and other restrictions as the Administrator deems necessary or advisable to comply with federal, state or foreign jurisdiction, securities or other laws, rules and quotation system

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on which the Stock is listed, quoted or traded. The Administrator may place legends on any Stock certificate or notations on any book entry to reference restrictions applicable to the Stock. In addition to the terms and conditions provided herein, the Administrator may require that an individual make such reasonable covenants, agreements, and representations as the Administrator, in its discretion, deems necessary or advisable in order to comply with any such laws, regulations, or requirements. The Administrator shall have the right to require any individual to comply with any timing or other restrictions with respect to the settlement or exercise of any Award, including a window-period limitation, as may be imposed in the discretion of the Administrator.

(c) Stockholder Rights. Until Stock is deemed delivered in accordance with Section 19(b), no right to vote or receive dividends or any other rights of a stockholder will exist with respect to shares of Stock to be issued in connection with an Award, notwithstanding the exercise of a Stock Option or any other action by the grantee with respect to an Award.

(d) Other Compensation Arrangements; No Employment Rights. Nothing contained in this Plan shall prevent the Board from adopting other or additional compensation arrangements, including trusts, and such arrangements may be either generally applicable or applicable only in specific cases. The adoption of this Plan and the grant of Awards do not confer upon any employee any right to continued employment with the Company or any Subsidiary.

(e) Trading Policy Restrictions. Option exercises and other Awards under the Plan shall be subject to the Company's insider trading policies and procedures, as in effect from time to time.

(f) Forfeiture of Awards under Sarbanes-Oxley Act. If the Company is required to prepare an accounting restatement due to the material noncompliance of the Company, as a result of misconduct, with any financial reporting requirement under the securities laws, then any grantee who is one of the individuals subject to automatic forfeiture under Section 304 of the Sarbanes-Oxley Act of 2002 shall reimburse the Company for the amount of any Award received by such individual under the Plan during the 12-month period following the first public issuance or filing with the United States Securities and Exchange Commission, as the case may be, of the financial document embodying such financial reporting requirement.

(g) Clawback Policy. Awards under the Plan shall be subject to the Company's clawback policy, as in effect from time to time.

SECTION 20. EFFECTIVE DATE OF PLAN

This Plan shall become effective upon stockholder approval in accordance with applicable state law, the Company's by-laws and articles of incorporation, and applicable stock exchange rules. No grants of Stock Options and other Awards may be made hereunder after May 16, 2029 and no grants of Incentive Stock Options may be made hereunder after April 10, 2029.

SECTION 21. GOVERNING LAW

This Plan and all Awards and actions taken thereunder shall be governed by, and construed in accordance with, the laws of the State of Delaware, applied without regard to conflict of law principles.

DATE APPROVED BY BOARD OF DIRECTORS: April 10, 2019

DATE APPROVED BY STOCKHOLDERS: May __, 2019

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