

MOMENTA PHARMACEUTICALS, INC.

THIRD AMENDED AND RESTATED CORPORATE GOVERNANCE GUIDELINES

(Approved March 14, 2017)

The Board of Directors (the “Board”) of Momenta Pharmaceuticals, Inc., a Delaware Corporation (the “Company”), has adopted the following First Amended and Restated Corporate Governance Guidelines (the “Guidelines”) to assist the Board in the exercise of its duties and responsibilities and to serve the best interests of the Company and its stockholders. The Guidelines should be applied in a manner consistent with all applicable laws and stock market rules and the Company’s charter and by-laws, each as amended and in effect from time to time. The Guidelines provide a framework for the conduct of the Board’s business. The Board may modify or make exceptions to the Guidelines from time to time in its discretion and consistent with its duties and responsibilities to the Company and its stockholders.

A. Director Responsibilities

1. Oversee Management of the Company. The principal responsibility of the directors is to oversee the management of the Company and, in so doing, serve the best interests of the Company and its stockholders. This responsibility includes:
 - Reviewing and approving fundamental operating, financial and other corporate plans, strategies and objectives.
 - Evaluating the performance of the Company and its senior executives and taking appropriate action, including removal, when warranted.
 - Evaluating the Company’s compensation programs on a regular basis and determining the compensation of its senior executives.
 - Requiring, approving and implementing senior executive succession plans.
 - Evaluating whether corporate resources are used only for appropriate business purposes.
 - Establishing a corporate environment that promotes timely and effective disclosure (including robust and appropriate controls, procedures and incentives), fiscal accountability, high ethical standards and compliance with all applicable laws and regulations.
 - Reviewing and approving material transactions and commitments not entered into in the ordinary course of business.
 - Developing a corporate governance structure that allows and encourages the Board to fulfill its responsibilities.

- Providing advice and assistance to the Company's senior executives.
 - Evaluating the overall effectiveness of the Board and its committees.
2. Exercise Business Judgment. In discharging their fiduciary duties of care, loyalty and candor, directors are expected to exercise their business judgment to act in what they reasonably believe to be the best interests of the Company and its stockholders.
3. Understand the Company and its Business. Directors have an obligation to become and remain informed about the Company and its business, including the following:
- The principal operational and financial objectives, strategies and plans of the Company.
 - The results of operations and financial condition of the Company and of significant subsidiaries and business segments.
 - The relative standing of the business segments within the Company and vis-à-vis competitors.
 - The factors that determine the Company's success.
 - The risks and problems that affect the Company's business and prospects.
4. Establish Effective Systems. Directors are responsible for determining that effective systems are in place for the periodic and timely reporting to the Board on important matters concerning the Company, including the following:
- Current business and financial performance, the degree of achievement of approved objectives and the need to address forward-planning issues.
 - Future business prospects and forecasts, including actions, facilities, personnel and financial resources required to achieve forecasted results.
 - Financial statements, with appropriate segment or divisional breakdowns.
 - Compliance programs to assure the Company's compliance with law and corporate policies.
 - Material litigation and governmental and regulatory matters.
 - Monitoring and, where appropriate, responding to communications from stockholders.

Directors should also periodically review the integrity of the Company's internal control and management information systems.

5. Board, Stockholder and Committee Meetings. Directors are responsible for attending Board meetings, meetings of committees on which they serve and the annual meeting of stockholders, and devoting the time needed, and meeting as frequently as necessary, to discharge their responsibilities properly.
6. Reliance on Management and Advisors; Indemnification. The directors are entitled to rely on the Company's senior executives and its outside advisors, auditors and legal counsel, except to the extent that any such person's integrity, honesty or competence is in doubt. The directors are also entitled to Company-provided indemnification, statutory exculpation and directors' and officers' liability insurance.

B. Director Qualification Standards

1. Independence. Except as may otherwise be permitted by the rules of The NASDAQ National Market ("NASDAQ"), a majority of the members of the Board shall be independent directors. To be considered independent: (1) a director must be independent as determined under Rule 4200(a)(15) of the NASDAQ rules and (2) in the Board's judgment, the director must not have a relationship with the company that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Ownership of a significant amount of the Company's stock, by itself, does not constitute a material relationship.

The determination of whether a material relationship exists shall be made by the other members of the Board of Directors who are independent as defined above.

The Nominating and Corporate Governance Committee shall be responsible for monitoring and assessing the independence of existing directors and new director candidates, and for making recommendations of its assessment of the independence of such individuals to the full Board, in accordance with applicable NASDAQ rules. The final determination of director independence shall be made by the members of the Board of Directors who are independent as defined above.

2. Size of the Board. The Board currently has nine (9) members. The Board believes this is an appropriate size given the Company's present circumstances, but that a smaller or larger Board may be appropriate at any given time, depending on circumstances and changes in the Company's business.
3. Other Directorships. A director shall limit the number of other public company boards on which he or she serves so that he or she is able to devote adequate time to his or her duties to the Company, including preparing for and attending meetings. Directors should advise the Chairman of the Board and the Chairman of the Nominating and Corporate Governance Committee in advance of accepting an invitation to serve as a member of the board of directors or member of an advisory board of any other public company. In addition, Directors should inform the Board from time to time of their service as directors or members of an

advisory board for any other private company and of their participation in investment companies (e.g. venture capital firms). Service on boards and/or committees of other organizations shall comply with the Company's conflict of interest policies.

4. Tenure. The Board does not believe it should establish term limits. Term limits could result in the loss of directors who have been able to develop, over a period of time, increasing insight into the Company and its operations and an institutional memory that benefit the entire membership of the Board as well as management. As an alternative to term limits, the Nominating and Corporate Governance Committee shall review each director's continuation on the Board at least once every three years. This will allow each director the opportunity to conveniently confirm his or her desire to continue as a member of the Board and allow the Company to conveniently replace directors who are no longer interested or effective.
5. Lead Director. In the event that the Chairman of the Board is not an independent director, the Nominating and Corporate Governance Committee may nominate an independent director to serve as "Lead Director," who shall be approved by a majority of the independent directors.

The Lead Director, if one is appointed, shall:

- Chair any meeting of the independent directors in executive session;
 - Meet with any director who is not adequately performing his or her duties as a member of the Board or any committee;
 - Facilitate communications between other members of the Board and the Chairman of the Board and/or the Chief Executive Officer; however, each director is free to communicate directly with the Chairman of the Board and with the Chief Executive Officer;
 - Work with the Chairman of the Board in the preparation of the agenda for each Board meeting and in determining the need for special meetings of the Board; and
 - Otherwise consult with the Chairman of the Board and/or the Chief Executive Officer on matters relating to corporate governance and Board performance.
6. Separation of the Offices of Chairman and Chief Executive Officer. The Board does not have a policy on whether the offices of Chairman of the Board and Chief Executive Officer should be separate and, if they are to be separate, whether the Chairman of the Board should be selected from among the independent directors or should be an employee of the Company.

7. Selection of New Director Candidates. Except where the Company is legally required by contract, corporate charter, by-law or otherwise to provide third parties with the right to nominate directors, the Nominating and Corporate Governance Committee shall be responsible for, among other things (i) identifying individuals qualified to become Board members, consistent with criteria approved by the Board, and (ii) recommending to the Board the persons to be nominated for election as directors at any meeting of stockholders and the persons to be elected by the Board to fill any vacancies on the Board. Director nominees shall be considered for recommendation by the Nominating and Corporate Governance Committee in accordance with the criteria and principles in its charter and the criteria to be established from time to time by the Board. It is expected that the Nominating and Corporate Governance Committee will have direct input from the Chairman of the Board, the Chief Executive Officer and, if one is appointed, the Lead Director.
8. Extending the Invitation to a New Director Candidate to Join the Board. The invitation to join the Board should be extended by the Chairman of the Board, on behalf of the Board, and the Chairman of the Nominating and Corporate Governance Committee, on behalf of such Committee. Unauthorized approaches to prospective directors can be premature, embarrassing and harmful.
9. Former Chief Executive Officer's Board Membership. The Board believes that the continuation of a former Chief Executive Officer of the Company on the Board is a matter to be decided in each individual instance by the Board, upon recommendation of the Nominating and Corporate Governance Committee. Accordingly, when the Chief Executive Officer ceases to serve in that position, he or she will be expected to resign from the Board if so requested by the Board, upon recommendation of the Nominating and Corporate Governance Committee.

C. Election of Directors

In accordance with the Company's by-laws, unless the Secretary of the Company determines that the number of nominees exceeds the number of directors to be elected at any meeting of stockholders as of the record date for the meeting, a nominee must receive more votes cast for than against his or her election or re-election (with abstentions not counted as a vote cast either for or against that nominee's election) in order to be elected or re-elected to the Board.

In the event one or more directors fails to receive the required vote for election or re-election (each, a "Subject Director"), then such Subject Director must promptly tender his or her resignation that will become effective upon the acceptance of such resignation by the Board. Upon the tender of such Subject Director's resignation, either (i) the Nominating and Corporate Governance Committee or (ii) if one or more of the members of the Nominating and Corporate Governance Committee is a Subject Director or the Board determines that a committee other than the Nominating and Corporate Governance Committee should recommend whether to accept the Subject Director's resignation, a committee consisting solely of independent directors (as determined in accordance with

applicable NASDAQ Stock Market rules and listing requirements) who are not Subject Directors (the committee described in clause (i) or (ii) of this sentence, the “Committee” for purposes of this Corporate Governance Guideline) will make a recommendation to the Board as to whether to accept or reject the Subject Director’s resignation. The Board, not including any Subject Director, shall act with respect to any Subject Directors, taking into account the recommendation of the Committee, within ninety (90) days from the date of the certification of the election results and shall notify the Subject Directors of its decision. Notwithstanding the foregoing, if the result of accepting all tendered resignations then pending would be that the Company would have fewer than three directors who were in office before the election of directors, the Board may determine to extend such 90-day period by an additional ninety (90) days if it determines that such an extension is in the best interests of the Company and its stockholders.

The Committee in making its recommendation, and the Board in making its decision, may each consider all factors it considers relevant, including any stated reasons for “against” votes, whether the underlying cause or causes of the “against” votes are curable, the length of service of each Subject Director, each Subject Director’s contributions to the Company, whether the acceptance of any resignation would cause the Company to fail to comply with any requirement of the NASDAQ Stock Market or any rule or regulation promulgated under the Securities Exchange Act of 1934, as amended, whether acceptance of any resignation would lead to a “change of control” of the Company as determined pursuant to any financing or other material agreement of the Company or any of its subsidiaries, and whether acceptance of any resignation would lead to a default under any material agreement to which the Company or any of its subsidiaries is a party or otherwise bound. Subject Directors shall not participate in the deliberation or recommendation(s) of the Committee or in the deliberation or decision(s) of the Board. Notwithstanding the foregoing, if all of the independent directors are Subject Directors, then the Committee shall consist of all the independent directors, except for the independent director whose resignation is under consideration, and furthermore, if the directors who are not Subject Directors constitute less than a quorum of the Board, then (i) all directors, except for the director whose resignation is under consideration, may participate in the Board’s deliberation and decisions regarding whether to accept or reject the previously tendered resignations, and (ii) the Board may determine that the effectiveness of its acceptance of any resignations of Subject Directors will occur after the Board has considered the resignations of all Subject Directors.

The Company shall promptly disclose the decision(s) of the Board in a filing with the Securities and Exchange Commission on a Current Report on Form 8-K. If a Subject Director’s tendered resignation is not accepted by the Board or such Subject Director does not otherwise submit his or her resignation to the Board, such director shall continue to serve until his or her successor is duly elected and qualified, or his or her earlier resignation or removal. If a Subject Director’s resignation is accepted by the Board, or if a nominee for director is not elected and the nominee is not an incumbent director, then the Board, in its sole discretion, may fill any resulting vacancy or decrease the size of the Board in accordance with the Company’s by-laws.

D. Board Meetings

1. Selection of Agenda Items. The Chairman of the Board shall approve the agenda for each Board meeting. Each Board member is free to suggest the inclusion of agenda items and is free to raise subjects at any Board meeting that are not on the agenda for that meeting.
2. Frequency and Length of Meetings. The Chairman of the Board, in consultation with the members of the Board, shall determine the frequency and length of the Board meetings. Special meetings may be called from time to time as determined by the needs of the business.
3. Advance Distribution of Materials. Information and data that are important to the Board's understanding of the business to be conducted at a Board or committee meeting should generally be distributed in writing to the directors before the meeting, and directors should review these materials in advance of the meeting. The Board acknowledges that certain items to be discussed at a Board or committee meeting may be of an extremely confidential or time-sensitive nature and that the distribution of materials on these matters prior to meetings may not be appropriate or practicable. Presentations made at Board meetings should do more than summarize previously distributed Board meeting materials.
4. Executive Sessions. The independent directors shall meet periodically in executive session to discuss, among other matters, the performance of the Chief Executive Officer. The independent directors will meet in executive session at other times at the request of any non-management director. Absent unusual circumstances, these sessions shall be held in conjunction with regular Board meetings. The director who presides at these meetings shall be the Lead Director if there is one, and if not, shall be chosen by the non-management directors, and his or her name shall be disclosed in the annual meeting proxy statement.
5. Attendance of Non-Directors at Board Meetings. The Board encourages the senior executives of the Company to, from time to time, bring Company personnel into Board meetings who (i) can provide additional insight into the items being discussed because of personal involvement in these areas or (ii) appear to be persons with future potential who should be given exposure to the Board.

E. Board Committees

1. Key Committees. The Board shall have at all times an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. Each such committee shall have a charter that has been approved by the Board. The Board may, from time to time, establish or maintain additional committees as necessary or appropriate.

2. Assignment and Rotation of Committee Members. The Nominating and Corporate Governance Committee shall be responsible for recommending to the Board the directors to be appointed to each committee of the Board. Except as otherwise permitted by the applicable NASDAQ and SEC rules, each member of the Audit Committee, the Compensation Committee and the Nominating and Corporate Governance Committee shall be an “independent director” as defined by such rules.
3. Committee Charters. In accordance with the applicable NASDAQ rules, the charters of the Audit Committee, the Compensation Committee and the Nominating and Corporate Governance Committee shall set forth the purposes, goals and responsibilities of the committees as well as qualifications for committee membership, procedures for committee member appointment and removal, committee structure and operations and committee reporting to the Board. The Board shall, from time to time as it deems appropriate, review and reassess the adequacy of each charter and make appropriate changes.
4. Selection of Agenda Items. The chairman of each committee, in consultation with the committee members, shall develop the committee’s agenda. At the beginning of the year each committee shall establish a schedule of subjects to be discussed during the year (to the extent practicable). The schedule for each committee meeting shall be furnished to all directors.
5. Frequency and Length of Committee Meetings. The chairman of each committee, in consultation with the committee members, shall determine the frequency and length of the committee meetings consistent with any requirements set forth in the committee’s charter. Special meetings may be called from time to time as determined by the needs of the business and the responsibilities of the committees.

F. Director Access to Management and Independent Advisors

1. Access to Officers and Employees. Directors have full and free access to officers and employees of the Company. Any meetings or contacts that a director wishes to initiate may be arranged through the Chief Executive Officer or the Secretary or directly by the director. The directors shall use their judgment to ensure that any such contact is not disruptive to the business operations of the Company and shall, to the extent appropriate, copy the Chief Executive Officer on any written communications between a director and an officer or employee of the Company.
2. Access to Independent Advisors. The Board and each committee have the power to hire and consult with independent legal, financial or other advisors for the benefit of the Board or such committee, as they may deem necessary, without consulting or obtaining the approval of any officer of the Company in advance. Such independent advisors may be the regular advisors to the Company. The Board or any such committee is empowered, without further action by the Company, to cause the Company to pay the compensation of such advisors as established by the Board or any such committee.

G. Director Compensation

1. Role of Board and Compensation Committee. The form and amount of director compensation shall be determined by the Compensation Committee in accordance with the policies and principles set forth below and in its charter.
2. Form of Compensation. The Board believes that directors should be incented to focus on long-term stockholder value. Including equity as part of director compensation helps align the interest of directors with those of the Company's stockholders.
3. Amount of Consideration. The Company seeks to attract exceptional talent to its Board. Therefore, the Company's policy is to compensate directors at least competitively relative to comparable companies. The Compensation Committee's compensation consultants shall, from time to time, provide comparison reports, comparing the Company's director compensation with that of comparable companies. The Board believes that it is appropriate for the Chairman of the Board and the chairmen and members of the committees to receive additional compensation for their services in those positions.
4. Employee Directors. Directors who are also employees of the Company shall receive no additional compensation for Board or committee service.

H. Director Orientation and Continuing Education

1. Director Orientation. The Board and the Company's management shall conduct a mandatory orientation program for new directors. The orientation program shall include presentations by management to familiarize new directors with the Company's strategic plans, its significant financial, accounting and risk management issues, its compliance programs, its code of business conduct and ethics, its principal officers, its internal and independent auditors and its outside legal advisors. In addition, the orientation program shall include a review of the Company's expectations of its directors in terms of time and effort, a review of the directors' fiduciary duties and visits to Company headquarters and, to the extent practical, certain of the Company's significant facilities. All other directors are also invited to attend the orientation program.
2. Continuing Education. Each director is expected to be involved in continuing director education on an ongoing basis to enable him or her to better perform his or her duties and to recognize and deal appropriately with issues that arise. The Company shall pay all reasonable expenses related to continuing director education.

I. Management Evaluation and Succession

1. Selection of Chief Executive Officer. The Board selects the Company's Chief Executive Officer in the manner that it determines to be in the best interests of the Company's stockholders.

2. Evaluation of Senior Executives. The Compensation Committee shall be responsible for overseeing the evaluation of the Company's senior executives. In conjunction with the Audit Committee, in the case of the evaluation of the senior financial executives, the Compensation Committee shall determine the nature, frequency of and persons subject to the evaluation process, supervise the conduct of the evaluations and prepare assessments of the performance of the Company's senior executives, which assessments shall be discussed periodically with the Board. The Board shall review the assessments to ensure that the senior executives are providing the best leadership for the Company over both the long- and short-term.
3. Succession of Senior Executives. The Nominating and Corporate Governance Committee shall be responsible for overseeing an annual evaluation of succession planning.

J. Periodic Performance Evaluation of the Board

The Nominating and Corporate Governance Committee shall oversee a periodic self-evaluation of the Board to determine whether it and its committees are functioning effectively. The Nominating and Corporate Governance Committee shall determine the nature of the evaluation, supervise the conduct of the evaluation and prepare an assessment of the Board's performance, which assessment shall be discussed with the Board. The purpose of this process is to improve the effectiveness of the Board and its committees and not to target individual Board members.

K. Board Interaction with Stockholders, Institutional Investors, the Press, Customers, Etc.

The Board believes that the Chief Executive Officer and his or her designees are the primary individuals authorized to speak for the Company. Individual Board members may, from time to time, meet or otherwise communicate with various constituencies that are involved with the Company regarding publicly-available information about the Company. However, where non-public information is requested by an outside party or in the event there is a media inquiry, Board members should only discuss such information with the involvement of the appropriate Executive Officer of the Company and/or the Company's Investor Relations spokesperson. In addition, all Board members shall comply with the Company's disclosure policies.

The Board will give appropriate attention to written communications that are submitted by stockholders and other interested parties, and will respond if and as appropriate. Absent unusual circumstances or as contemplated by the committee charters, the Chairman of the Board (if an independent director), or the Lead Director (if one is appointed), or otherwise the Chairman of the Nominating and Corporate Governance Committee shall, subject to advice and assistance from the Chief Executive Officer and, if requested, outside legal counsel, (1) be primarily responsible for monitoring communications from shareholders and other interested parties, and (2) provide copies or summaries of such communications to the other directors as he or she considers appropriate.

L. Periodic Review of the Corporate Governance Guidelines

The Nominating and Corporate Governance Committee shall, from time to time as it deems appropriate, review and reassess the adequacy of these Guidelines and recommend any proposed changes to the Board for approval.