

ALNYLAM PHARMACEUTICALS, INC.

RESTATED NOMINATING AND CORPORATE GOVERNANCE COMMITTEE CHARTER

A. Purpose

The purpose of the Nominating and Corporate Governance Committee (the “Committee”) of the Board of Directors (the “Board”) of Alnylam Pharmaceuticals, Inc. (the “Company”) is to:

- identify individuals qualified to become Board members and evaluate candidates recommended by shareholders for election to the Board and stockholder proposals submitted for inclusion in the Company’s proxy materials;
- recommend to the Board the persons to be nominated for election as directors at any meeting of stockholders and the persons (if any) to be elected by the Board to fill any vacancies on the Board;
- develop and recommend to the Board corporate governance guidelines applicable to the Company and make recommendations to the Board regarding corporate governance matters;
- evaluate and recommend directors to be appointed to each committee of the Board;
- oversee management’s implementation of the Company’s compliance programs with respect to non-financial compliance matters and the Company’s quality programs;
- assist in the development of and recommend to the Board, as appropriate, policies and programs with respect to environmental, health and safety, social responsibility and governance matters, as well as periodically reviewing with management the Company’s efforts with regard to these matters;
- review the Company’s significant corporate governance and board succession risks and steps taken to monitor and mitigate such risks, including succession planning for the Board and key leadership roles on the Board and its committees;
- oversee the Company’s management of operational risk and contingency planning for business continuity;
- oversee the Company’s program, policies and procedures related to information technology and data protection; and
- oversee the evaluation of the Board.

B. Structure and Membership

1. Number. The Nominating and Corporate Governance Committee shall consist of such number of directors as the Board shall from time to time determine.
2. Independence. Except as otherwise permitted by the applicable Nasdaq Stock Market rules, each member of the Nominating and Corporate Governance Committee shall be “independent” as defined by such rules.
3. Chair. A chairperson of the Committee (the “Chair”) may be designated by the Board. Absent such delegation, the Committee may elect a Chair by majority vote.
4. Compensation. The compensation of the Nominating and Corporate Governance Committee members shall be as determined by the Board.
5. Selection and Removal. Members of the Nominating and Corporate Governance Committee shall be appointed by the Board, upon the recommendation of the Committee. Resignation or removal of a director from the Board, for whatever reason, shall automatically constitute resignation or removal, as applicable, from the Nominating and Corporate Governance Committee. The Board may remove members of the Nominating and Corporate Governance Committee from such Committee, with or without cause by the affirmative vote of the majority of the Board. Vacancies occurring, for whatever reason, may be filled by the Board.
6. Quorum. A majority of the members of the Nominating and Corporate Governance Committee shall constitute a quorum for purposes of holding a meeting and the Nominating and Corporate Governance Committee may act by a vote of a majority of members present at such meeting.

C. Authority and Responsibilities

General

The Nominating and Corporate Governance Committee shall discharge its responsibilities, and shall assess the information provided by the Company’s management, in accordance with its business judgment.

Board and Committee Membership

1. Selection of Director Nominees. Except where the Company is legally required by contract, bylaw or otherwise to provide third parties with the right to nominate directors, the Nominating and Corporate Governance Committee shall be responsible for (a) evaluation of the current composition, organization and governance of the Board and its committees, (b) identifying individuals qualified to become Board members, consistent with criteria approved by the Board, and (c) recommending to the Board the nominees 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. In making such recommendations, the Committee shall consider and evaluate candidates proposed by stockholders. The Committee shall review and evaluate information available to it regarding candidates proposed by stockholders and shall apply the same criteria, and shall follow substantially the same process in considering them, as it

does in considering other candidates.

2. Criteria for Selecting Directors. The criteria to be used by the Nominating and Corporate Governance Committee in recommending directors and by the Board in nominating directors are as set forth in the Company's corporate governance guidelines. The Committee shall be responsible for reviewing with the Board, on an annual basis, the requisite skills and criteria for new Board members as well as the composition of the Board as a whole, with a view to establishing a well-rounded, diverse, knowledgeable, and experienced Board. The Committee shall adopt, and periodically review and revise as it deems appropriate, procedures regarding director candidates proposed by stockholders. The Committee shall also assess at least annually the independence of directors in accordance with Nasdaq rules and other applicable requirements, and make a recommendation to the Board with regard to such independent assessment.
3. Stockholder Nominations. The Nominating and Corporate Governance Committee shall review all stockholder nominations and proposals submitted to the Company (including any proposal relating to the procedures for making nominations or electing directors), determine whether the nomination or proposal was submitted in a timely manner and in accordance with the bylaws and, in the case of a director nomination, whether the nomination and the nominee satisfy all applicable eligibility requirements (including those contained in the Bylaws of the Company and proxy statement), and recommend to the Board appropriate action on each such nomination or proposal. The Committee may establish policies, requirements, criteria and procedures in furtherance of the foregoing.
4. Search Firms. The Nominating and Corporate Governance Committee shall have the sole authority to retain and terminate any search firm to be used to identify director nominees, including sole authority to approve the search firm's fees and other retention terms. The Committee is empowered, without further action by the Board, to cause the Company to pay the compensation of any search firm engaged by the Committee.
5. Selection 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.

Corporate Governance

6. Corporate Governance Guidelines. The Nominating and Corporate Governance Committee shall develop and recommend to the Board corporate governance guidelines applicable to the Company. The Committee shall, from time to time as it deems appropriate, review and reassess the adequacy of such corporate governance guidelines and recommend any proposed changes to the Board for approval.
7. Board Leadership Structure. As more fully provided for in the Company's corporate governance guidelines, the Nominating and Corporate Governance Committee shall periodically review the Board's leadership structure to assess whether it is appropriate given the specific characteristics or circumstances of the Company.

8. Evaluation of External Commitments. The Nominating and Corporate Governance Committee shall periodically review the external commitments of the Board members and executive officers of the Company to evaluate each relationship for a potential conflict of interest and to confirm that such officers of the Company continue to have adequate time available to perform their duties to the Company.
9. Compliance and Corporate Responsibility. Subject to the provisions set forth in 10 below, the Committee shall oversee management's implementation of the Company's compliance programs, including the Company's Codes of Business Conduct and Ethics and comprehensive compliance program, the Company's quality programs and the Company's policies and procedures for monitoring compliance and quality standards, and recommend to the Board from time to time any amendments to such programs. In addition, the Committee shall oversee management's implementation of the Company's information technology policies and monitor the risks associated with the Company's information systems, including reviewing and discussing with management the Company's program to identify, assess, manage and monitor cybersecurity risks. At least twice annually, the Committee shall meet to review the implementation and effectiveness of the Company's global compliance program with the global head, ethics and compliance, who shall have a dotted reporting line to the Committee with authority to communicate directly to the Committee.

The Committee shall assist in the development of management systems and review and report to the Board on a periodic basis with regards to matters of corporate social responsibility and sustainability performance, including potential long and short-term trends and impacts to the Company's business of environmental, social, and governance issues. The Committee shall conduct a periodic review with management of environmental, social and governance matters pertaining to the Company.

10. Alignment with the Audit Committee. The Audit Committee shall retain those responsibilities as are outlined in the Audit Committee Charter and shall continue to oversee the Company's financial risk management program. As part of its responsibilities, the Audit Committee may receive information regarding financial compliance and non-financial compliance matters. The Audit Committee shall retain oversight responsibility for all such financial compliance matters. Oversight of non-financial compliance matters shall be the responsibility of the Nominating and Corporate Governance Committee as set forth herein.
11. Evaluation of the Board. The Nominating and Corporate Governance Committee shall be responsible for overseeing a periodic self-evaluation of the Board to determine whether it and its committees are functioning effectively. The Committee shall determine the nature of the evaluation, supervise the conduct of the evaluation and prepare an assessment of the Board's performance, to be discussed with the Board.
12. Additional Duties. The Nominating and Corporate Governance Committee shall have such other duties as may be delegated from time to time by the Board.

D. Procedures and Administration

1. Meetings. The Nominating and Corporate Governance Committee shall meet as often as it deems necessary in order to perform its responsibilities. The Committee may also act by unanimous written consent in lieu of a meeting. The Committee shall keep such records of its meetings as it shall deem appropriate.
2. Subcommittees. The Nominating and Corporate Governance Committee may form and delegate authority to one or more subcommittees (including a subcommittee consisting of a single member), as it deems appropriate from time to time under the circumstances.
3. Reports to the Board. The Nominating and Corporate Governance Committee shall report regularly to the Board.
4. Charter. The Nominating and Corporate Governance Committee shall, from time to time as it deems appropriate, review and reassess the adequacy of this Charter and recommend any proposed changes to the Board for approval.
5. Independent Advisors. The Nominating and Corporate Governance Committee is authorized, without further action by the Board, to engage such independent legal and other advisors as it deems necessary or appropriate to carry out its responsibilities. Such independent advisors may be the regular advisors to the Company. The Committee is empowered, without further action by the Board, to cause the Company to pay the compensation of such advisors as established by the Committee.
6. Investigations. The Nominating and Corporate Governance Committee shall have the authority to conduct or authorize investigations into any matters within the scope of its responsibilities as it shall deem appropriate, including the authority to request any officer, employee or advisor of the Company to meet with the Committee or any advisors engaged by the Committee.
7. Periodic Self-Evaluation. The Nominating and Corporate Governance Committee shall periodically evaluate its own performance.

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Approved by the Board on December 2, 2020