

NORTHSTAR NEUROSCIENCE, INC.
CHARTER OF THE COMPENSATION COMMITTEE
OF THE BOARD OF DIRECTORS

(adopted February 16, 2006)

I. STATEMENT OF POLICY

This Charter specifies the scope of the responsibilities of the Compensation Committee (the “Committee”) of the Board of Directors (the “Board”) of Northstar Neuroscience, Inc. (the “Company”) and the manner in which those responsibilities shall be performed, including its structure, processes and membership requirements.

The primary purpose of the Committee is to discharge the Board’s responsibilities relating to compensation and benefits of the Company’s executive officers. In carrying out these responsibilities, the Committee shall review all components of executive officer compensation for consistency with the Committee’s compensation philosophy as in effect from time to time.

The Committee is also responsible for producing an annual report on executive compensation for inclusion in the Company’s proxy statement, in accordance with applicable rules and regulations.

II. ORGANIZATION AND MEMBERSHIP REQUIREMENTS

The Committee shall be comprised of at least three directors, each of whom shall satisfy the independence requirements of The Nasdaq Stock Market, Inc. (“Nasdaq”) and qualify as a “non-employee director” under Rule 16b-3 promulgated under the Securities Exchange Act of 1934, as amended, provided that one director who does not meet the independence criteria of Nasdaq, but is not a current employee or officer, or an immediate family member of an employee or officer, may be appointed to the Committee, subject to approval of the Board, pursuant to, and subject to the limitations under, the “exceptional and limited circumstances” exception as provided under the rules of Nasdaq. A director shall not serve as a member of the Committee if the Chief Executive Officer (the “CEO”) or another executive officer of the Company serves on the compensation committee of another company that employs that director as an executive officer.

The members of the Committee shall be appointed by the Board on the recommendation of the Nominating and Corporate Governance Committee and shall serve until their successors are duly elected and qualified or their earlier death, resignation or removal. Any member of the Committee may be replaced by the full Board on the recommendation of the Nominating and Corporate Governance Committee. Unless a chairman is elected by the Board, the members of the Committee may designate a chairman by the majority vote of the full Committee membership. The Committee may from time to time delegate duties or responsibilities to subcommittees or to one member of the Committee.

The Committee shall have the authority to obtain advice or assistance from consultants, legal counsel, accounting or other advisors as appropriate, to perform its duties hereunder and to

determine the terms, costs and fees for such engagements. Without limitation, the Committee shall have the sole authority to retain or terminate any consulting firm used to evaluate CEO or executive compensation, and to determine and approve the terms of engagement, fees and costs for such engagements. The fees and costs of any consultant or advisor engaged by the Committee to assist in it in performing any duties hereunder shall be borne by the Company.

III. MEETINGS

The Committee shall meet as often as it deems appropriate, but not less frequently than once a year, to review the compensation of the executive officers of the Company, and otherwise perform its duties under this charter.

A majority of the members shall represent a quorum of the Committee, and, if a quorum is present, any action approved by at least a majority of the members present shall represent the valid action of the Committee.

The Committee shall maintain written minutes of its meetings, which minutes will be filed with the minutes of the meetings of the Board.

IV. COMMITTEE AUTHORITY AND RESPONSIBILITIES

To fulfill its responsibilities and duties, the Committee shall:

A. Recommend to the Board for determination all compensation for the CEO, including incentive-based and equity-based compensation. The CEO may not be present during voting or deliberations concerning his or her compensation.

B. Develop annual performance objectives and goals relevant to compensation for the CEO and evaluate the performance of the CEO in light of these goals and objectives.

C. Consider, in determining the long-term incentive component of compensation for the CEO, the Company's performance and relative shareholder return, the value of similar incentive awards to chief executive officers at comparable companies, and the awards given to the Company's CEO in past years.

D. Review and approve incentive-based or equity-based compensation plans in which the Company's executive officers participate, review and approve salaries, incentive and equity awards for other executive officers and oversee the evaluation of management.

E. Review and approve all employment, severance, or change-in-control agreements, special or supplemental benefits, or provisions including the same, applicable to executive officers.

F. Periodically review and advise the Board concerning both regional and industry-wide compensation practices and trends in order to assess the adequacy and competitiveness of the Company's compensation programs for the CEO, other executive officers relative to comparable companies in the Company's industry.

G. Prepare an annual report on executive compensation for inclusion in the Company's proxy statement for the annual meeting of stockholders, in accordance with applicable rules and regulations.

H. Perform such other activities consistent with this Charter, the Company's Bylaws and governing law, as the Committee or the Board deems necessary or appropriate.

I. Make regular reports to the Board of Directors regarding the foregoing.

J. Review and reassess the adequacy of this Charter and recommend any proposed changes to the Board for approval.