

**AMENDED AND RESTATED
CHARTER OF THE COMPENSATION AND LEADERSHIP DEVELOPMENT
COMMITTEE
OF
THE BOARD OF DIRECTORS
OF
ASPEN AEROGELS, INC.¹**

I. PURPOSE

The purpose of the Compensation and Leadership Development Committee (the “Committee”) of the Board of Directors (the “Board”) of Aspen Aerogels, Inc. (the “Corporation”) is to:

1. Discharge certain responsibilities of the Board relating to compensation of the Corporation’s executive officers and key employees;
2. Assist the Board in establishing appropriate incentive compensation and equity-based plans and to administer such plans;
3. Ensure appropriate leadership development and succession planning is in place to support the Corporation’s strategy implementation;
4. Oversee the annual process of evaluation of the performance of the Corporation’s management; and
5. Perform such other duties and responsibilities as enumerated in and consistent with this Charter or as may otherwise be delegated to the Committee by the Board from time to time.

II. MEMBERSHIP AND PROCEDURES

A. Membership and Appointment

The Committee shall be comprised of not fewer than two members of the Board, as shall be determined from time to time by the Board. The members of the Committee shall be elected by the Board, or the committee thereof responsible for nominations of directors, at the first meeting of the Board or such committee, as applicable, following the annual meeting of the shareholders and shall hold office until their resignation or removal or until their successors shall be duly elected and qualified.

Except as may otherwise be permitted by the listing standards of The New York Stock Exchange (the “NYSE”) rules, all members of the Committee shall qualify as

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“independent directors” for purposes of the NYSE, as such standards may be changed from time to time. In addition to the general independence standard required for membership on the Committee, the Board must consider all factors relevant to determining whether the director has a relationship to the Corporation which is material to that director’s ability to be independent from management in connection with the duties of a Committee member, including the source of the director’s compensation, including any consulting, advisory or other compensation fees (other than director fees), and any affiliate relationships between the director and the Corporation or any of its subsidiaries.

To the extent that the Board deems practicable and advisable, all members of the Committee shall also qualify as “non-employee directors” for purposes of Rule 16b-3 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and as “outside directors” for purposes of Section 162(m) of the Internal Revenue Code of 1986, as amended, as such standards and definitions may be revised or amended from time to time; provided, however, that notwithstanding anything contained herein to the contrary, if not all members of the Committee qualify as non-employee directors, any grant of equity compensation to directors and officers (as defined by Rule 16a-1(f) of the Exchange Act) shall be made by the full Board or a subcommittee of the Committee comprised of at least two members who qualify as non-employee directors.

B. Removal

The entire Committee or any individual Committee member may be removed without cause by the affirmative vote of a majority of the Board. Any Committee member may resign effective upon delivery of written notice to the Chairman of the Board, the Secretary of the Corporation, or the Board (unless the notice specifies a later time for the effectiveness of such resignation). The Board may elect a successor to assume the available position on the Committee when the resignation becomes effective.

C. Chairperson

A chairperson of the Committee (the “Chairperson”) may be designated by the Board. In the absence of such designation, the members of the Committee may designate the Chairperson by majority vote of the full Committee membership. The Chairperson shall determine the agenda for and the length of meetings and shall have unlimited access to management and to information relating to the Committee’s purposes. The Chairperson shall establish such other rules as may from time to time be necessary and proper for the conduct of the business of the Committee.

D. Meetings, Minutes and Reporting

The Committee shall meet as often as it deems necessary to carry out its responsibilities. All Committee members are expected to attend each meeting, in person or via tele- or video-conference.

The Committee shall keep full and complete minutes of the proceedings of the Committee. In addition to the specific matters set forth herein requiring reports by the Committee to the full Board, the Committee shall report such other significant matters as it deems necessary concerning its activities to the full Board. The Committee may appoint a Secretary whose duties and responsibilities shall be to keep records of the proceedings of the Committee for the purposes of reporting Committee activities to the Board and to perform all other duties as may from time to time be assigned to him or her by the Committee, or otherwise at the direction of a Committee member. The Secretary need not be a member of the Committee or a director and shall have no membership or voting rights by virtue of the position.

E. Quorum; Action by Committee

A quorum at any Committee meeting shall be at least two members (where the Committee is comprised of two or three members) or three members (where the Committee is comprised of four or more members). All determinations of the Committee shall be made by a majority of its members present at a meeting duly called and held (or where only two members are present, by unanimous vote). Any decision or determination of the Committee confirmed in writing and signed by all of the members of the Committee shall be fully as effective as if it had been made at a meeting duly called and held.

F. Delegation

The Committee may, by resolution passed by a majority of the Committee members, designate one or more subcommittees, each subcommittee to consist of one or more members of the Committee. Any such subcommittee, to the extent provided in the resolutions of the Committee and to the extent not limited by applicable law, shall have and may exercise all the powers and authority of the Committee. Each subcommittee shall have such name as may be determined from time to time by resolution adopted by the Committee. Each subcommittee shall keep regular minutes of its meetings and report the same to the Committee or the Board when required.

G. Authority to Retain Advisors

In the course of its duties, the Committee shall have the sole authority, at the Corporation's expense, to retain and terminate compensation consultants, legal counsel, experts and other advisors, as the Committee deems advisable, including the sole authority to approve any such advisors' fees and other retention terms. Such consultants, legal counsel or other advisors are required to be independent pursuant to any then applicable laws, as determined in the Compensation Committee's sole discretion.

Before selecting any such consultant, counsel, expert or advisor, the Committee shall consider the following independence factors :

- The provision of other services to the Corporation by the person that employs the consultant, counsel, expert or advisor (the “Employing Firm”).
- The amount of fees received from the Corporation by the Employing Firm, as a percentage of the total revenue of the Employing Firm.
- The policies and procedures of the Employing Firm that are designed to prevent conflicts of interest.
- Any business or personal relationship of the consultant, counsel, expert or advisor with a member of the Committee.
- Any business or personal relationship of the consultant, counsel, expert, advisor or Employing Firm with an executive officer of the Corporation.
- Any stock of the Corporation owned by the consultant, counsel, expert or advisor.

III. DUTIES AND RESPONSIBILITIES

The following shall be recurring duties and responsibilities of the Committee in carrying out its purposes. These duties and responsibilities are set forth below as a guide to the Committee, with the understanding that the Committee will operate flexibly and may alter or supplement them as appropriate under the circumstances, to the extent permitted by applicable law.

1. Establish compensation policies for the Chief Executive Officer (“CEO”), other executive officers and key employees designed to (i) enhance the profitability of the Corporation and increase shareholder value, (ii) reward the CEO, executive officers and key employees for their contribution to the Corporation’s growth and profitability, (iii) recognize individual initiative, leadership, achievement, and other contributions and (iv) provide competitive compensation that will attract and retain qualified executive officers and key employees.
2. Review competitive practices and trends to determine the adequacy of the Corporation’s compensation programs.
3. Annually review and approve corporate goals and objectives relevant to compensation of the CEO, lead the process for the Board to evaluate the CEO’s performance in light of those goals and objectives, and recommend to the Board the CEO’s compensation levels based on this evaluation.
4. Annually review and approve compensation of executive officers of the Corporation other than the CEO.
5. Approve employment contracts, severance arrangements, change in control provisions and other agreements with all executive officers.

However, the approval with regard to the CEO is subject to further approval by the Board.

6. Subject to Board's reservation of authority with respect to the CEO in subsection 3 above, review, approve and administer cash incentives, non-equity incentive plans and deferred compensation plans for executive officers and key employees (including any modification to such plans) and oversight of performance objectives and funding for incentive plans.
7. Report to the Board at least annually its assessment of the Corporation's management training and development programs, and the Corporation's succession plans for senior executives, including the CEO, and make any recommendations to the Board related thereto.
8. Subject to Board's reservation of authority with respect to the CEO in subsection 3 above, review, approve and oversee compensation programs involving the use of the Corporation's stock, including the approval of restricted stock grants, restricted stock unit (RSU) grants and stock option grants, in each case pursuant to Board-approved equity compensation plans and otherwise in accordance with Section II.A of this Charter, if applicable.
9. If the Corporation is required by applicable Securities and Exchange Commission ("SEC") rules to include a Compensation Discussion and Analysis ("CD&A") in its SEC filings, review the CD&A prepared by management, discuss the CD&A with management and, based on such review and discussions, recommend to the Board that the CD&A be included in the Corporation's Annual Report on Form 10-K, proxy statement, or any other applicable filing as required by the SEC.
10. Prepare and approve the annual Compensation Committee Report for inclusion in the Corporation's Annual Report on Form 10-K, proxy statement, or any other applicable filing as required by the SEC, in accordance with all applicable legal and regulatory requirements.
11. Review all compensation policies and practices for all employees to determine whether such policies and practices create risks that are reasonably likely to have a material adverse effect on the Corporation.
12. Recommend to the Board that the stockholders of the Corporation approve, on an advisory basis, the compensation of the named executive officers of the Corporation, as disclosed in the Corporation's proxy statement.
13. Recommend to the Board the frequency of holding a vote on the compensation of the Corporation's named executive officers.
14. Periodically review executive supplementary benefits and, as appropriate, the organization's retirement, benefit, and special compensation programs involving significant cost.

15. Annually review and reassess the adequacy of this Charter and recommend any proposed changes to the Board for approval.
16. Annually evaluate its own performance.
17. Make regular reports to the Board.
18. Oversee the annual process of performance evaluations of the Corporation's management.
19. Fulfill such other duties and responsibilities as may be assigned to the Committee, from time to time, by the Board and/or the Chairman of the Board.

Adopted: March 11, 2014