

Axcelis Technologies, Inc.

Compensation Committee Charter

Adopted by the Board of Directors on February 11, 2016

The Compensation Committee of the Board of Directors of Axcelis Technologies, Inc. shall have all the authority of the Board of Directors to act or exercise corporate powers with respect to the compensation of the executive officers and the administration of Axcelis' equity compensation plans. In such role, the Compensation Committee will act as an independent representative of shareholders of Axcelis.

Composition of the Committee

The Committee shall have at least two members appointed by the Board of Directors, each of whom must meet the requirements of:

- "Independence" as defined by the listing standards for The Nasdaq Stock Market (subject to exceptions allowable under such rules);
- "outside director" as defined for the purposes of Section 162(m) of the Internal Revenue Code of 1986, as amended; and
- "Non-employee director" as defined under Rule 16b-3 under the Securities Exchange Act of 1934, as amended.

The Board of Directors may appoint a chairperson of the Committee.

No member of the Committee may accept, directly or indirectly, any consulting, advisory or other compensatory fee, other than for board service, from the Company or any of its subsidiaries.

Resources for the Committee

At the request of the Committee, members of management will attend Committee meetings to make recommendations, exchange information and facilitate the implementation of compensation philosophy or specific actions. The Committee may, in its discretion, retain a compensation consultant and/or other legal or regulatory advisors, from time to time, to advise the Compensation Committee on executive compensation practices and policies, or any other matters within the charter of the Compensation Committee. The Committee shall assess and consider the independence of any retained adviser, under the criteria set forth in Rule 10C-1 of the Securities and Exchange Act of 1934, as amended, as set forth on Appendix A. No adviser shall be retained by the Committee who is not deemed to be independent following such consideration by the Committee. The Company shall provide appropriate funding, as determined by the Committee, for the payment of reasonable compensation to any compensation adviser retained by the Committee.

Compensation Philosophy and General Compensation and Benefit Oversight

- Review annually and approve compensation policy, structure and objectives for all employees generally.
- Approve any significant deviations from compensation policy, structure and objectives for all employees from those last presented to the Committee.
- The Committee shall articulate and report on Axcelis' compensation philosophy as required by SEC proxy rules.
- Review and recommend to the Board any actions relating to compensation and benefits that require Board authorization, such as 401(k) plan and equity plan amendments.

Approval of Executive Officer Compensation and Terms of Employment

- Review and approve all compensation to executive officers of the Company (as defined below). Executive officer compensation subject to Committee approval shall include the annual salary level, short-term and long-term incentive compensation and equity grants, but may exclude compensation or benefits generally available to Axcelis employees. In this connection, the Committee's responsibility expressly includes review and approval of:
 - the structure of short term incentive (bonus) compensation plans in which executive officers participate;
 - the establishment and achievement of annual or other periodic objectives for such plans;
 - benefits and perquisites available to executive officers but not available to all employees; and
 - all other compensation of executive officers, whether or not under any established plan.
- Compensation of the executive officers will be determined by the Committee meeting in executive session. The Chief Executive Officer may be present (but not vote) during the Committee's deliberations regarding executive officer compensation, except in the case of deliberations regarding the compensation of the Chief Executive Officer him- or herself.
- Evaluate the need for, and provisions of, employment contracts/severance arrangements for executive officers.
- Evaluate and approve the structure of any cash incentive plan in which executive officers participate, including the funding of the plan and the appropriateness of quantitative and qualitative measures for pay-outs under such incentive plans.
- Consider the Chief Executive Officer performance review developed in accordance with the Company's Governance Guidelines in deliberating on the compensation of the Chief Executive Officer
- Ensure that an annual Axcelis Talent Review (ATR) covering non-CEO executive officer performance and succession planning is presented to the Board.
- For the purpose of this charter, "executive officer" shall have same meaning as "officer" as the term is defined in Section 16 of the Securities Exchange Act of 1934, as amended, and Rule 16a-1 thereunder.

Equity Plan Administration

- Recommend to the Board of Directors for approval the initial design and subsequent amendments of any equity plans, including the 2012 Equity Incentive Plan, the Employee Stock Purchase Plan, other option or restricted stock plans and any other equity compensation programs (collectively “Equity Plans”).
- Provide interpretations of the provisions of the Equity Plans as needed.
- To the extent the Equity Plans authorize the Board or the Committee to exercise discretion in the implementation of the Equity Plans, to do so.
- Approve any delegation to management of authority to approve annual, bonus grant and new hire stock-based grants under 2012 Equity Incentive Plan or other option or restricted stock plans.
- Manage the number of shares reserved for issuance under Equity Plans and the actual granting of awards thereunder in light of the need to offer competitive compensation to employees and still serve the interests of shareholders.
- Oversee action required or deemed desirable to be taken with regard to compensation and benefit plans in any major corporate restructuring.

Committee Charter

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

Annual Self Evaluation

- In coordination with the Nominating and Governance Committee, to engage in an annual self-evaluation and performance appraisal of the Committee.

Appendix A -- Independence Criteria for Compensation Committee Advisors

Prior to engaging a compensation adviser, the Committee must consider, at a minimum, the following six specified independence factors:

1. The provision of other services to the listed company by the compensation adviser's employer;
2. The amount of fees received from the listed company by the compensation adviser's employer, as a percentage of the total revenue of the compensation adviser's employer;
3. The policies and procedures of the compensation adviser's employer that are designed to prevent conflicts of interest;
4. Any business or personal relationship of the compensation adviser with a member of the compensation committee;
5. Any stock of the listed company owned by the compensation adviser; and
6. Any business or personal relationship between the executive officers of the company and the compensation adviser or the compensation adviser's employer.