

April 23, 2009

VIA EDGAR

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, NE  
Washington, D.C. 20549

Attention: Jim B. Rosenberg

**Re: Alexion Pharmaceuticals, Inc.**  
**Form 10-K for the Year Ended December 31, 2007**  
**Filed February 29, 2008**  
**Form 10-Q for the Quarterly Period Ended September 30, 2008**  
**Filed October 30, 2008**  
**Form DEF 14A**  
**Filed on April 4, 2008**  
**File No. 000-27756**

Ladies and Gentlemen:

On December 5, 2008, Alexion Pharmaceuticals, Inc. (the "Company") responded to the November 5, 2008 comment letter that the Company received from Jim B. Rosenberg of the Staff (the "Staff") of the Securities and Exchange Commission (the "Commission"). On February 12, 2009, the Company responded to the Staff's second comment letter dated January 28, 2009.

The Staff further requested that the Company submit its proposed 2009 proxy statement disclosure relating to the payment of annual incentive bonuses to its named executive officers for 2008 performance. Set forth below is the Company's response.

**DEF 14A**

The Company confirms that in its 2009 proxy statement it will provide disclosure in substantially the form set forth below with respect to the payment of annual incentive bonuses to its named executive officers for 2008 performance.

*Annual Incentive Bonuses*

Annual cash incentive bonuses are designed to reward annual achievements and to be commensurate with each executive officers' scope of responsibilities, demonstrated leadership, management abilities and effectiveness in their respective roles. The company seeks to award annual incentive bonuses at approximately competitive industry average and at approximately the fiftieth percentile of the peer group. Annual incentive bonuses are also intended to retain executives, to motivate executives to achieve short-term (annual) success, and to reward, in the short-term, significant contributions to the success of the company. While Alexion's policy is to base a significant portion of its senior executives' cash compensation on annual incentive bonuses, no senior executive of Alexion is guaranteed an annual incentive bonus. The Compensation Committee in its discretion may also increase or decrease an executive's bonus payment based on an executive's individual performance during a given year.

Payment of the annual incentive bonus first involves the approval of the executive's target (a percentage of base salary), and second, a determination of the actual amount of the annual incentive bonus to be paid based on the company's and the individual's performance during the year, as well as other factors considered by the committee.

In January 2008, the Compensation Committee approved the annual cash incentive bonus targets for its executives, including the named executive officers. The committee believed that targets should be set in a manner consistent with the company's compensation philosophy of paying for performance, and maintaining competitive compensation arrangements in order to retain and motivate highly talented individuals. The committee set targets at approximately the median of the peer group.

In January 2008, the committee established the following annual incentive bonus targets as a percentage of base salary for 2008: 70% for Dr. Bell, 55% for Mr. Keiser, 50% for each of Dr. Squinto and Mr. Sinha, and 45% for Mr. Dubin.

Actual annual cash incentive bonuses for 2008 were approved in January 2009 and paid in February 2009. In 2008, the committee retained Hewitt Associates LLC to advise it with respect to 2009 executive compensation matters, including payment of each executive's 2008 annual incentive bonus.

At the end of 2008, the committee, together with Hewitt, reviewed the peer group that had been selected in the beginning of the year in order to determine base salaries and long-term equity incentive awards and to set annual cash incentive targets, and modified the group based on, as explained above under *Peer Group Analysis*, its evaluation of financial and other metrics, including market capitalization, revenue and employee count. Alexion's market capitalization, revenues and employee count increased since the last review of the peer group was selected in the beginning of 2008. All of the companies in the newly selected peer group are commercial companies with reported revenues. Eight of the seventeen companies recorded revenues greater than \$500 million during the evaluation period and median revenues for the peer group was approximately \$465 million. In consultation with the company, the consultant assumed Alexion revenues of \$300 million for the same period based on the company's run rate at the time of analysis,

which represented approximately 64% of the median. The median market capitalization for the peer group was approximately \$2.4 billion and Alexion's market capitalization exceeded the median, approximately \$3.05 billion. Hewitt collected its data from peer group proxy statements and from the Radford survey.

The peer group utilized by the committee and provided in consultation with Hewitt to assist in the determination of 2008 annual incentive bonuses included the following companies:

Alkermes, Inc.	Isis Pharmaceuticals, Inc.	United Therapeutics Corporation
Amylin Pharmaceuticals, Inc.	Medicis Pharmaceutical Corporation	Valeant Pharmaceuticals International
Celgene Corporation	OSI Pharmaceuticals, Inc.	Vertex Pharmaceuticals, Inc.
Cephalon, Inc.	Perrigo Company	Viropharma Inc.
Cubist Pharmaceuticals, Inc.	Regeneron Pharmaceuticals, Inc.	Warner Chilcott Ltd.
Genzyme Corporation	Sepracor Inc.	

The awards of annual incentive bonuses are not based on a rigid mathematical formula. Rather, the Compensation Committee retains significant discretion in determining incentive bonuses to be paid based on many factors, including the individual's target, the committee's assessment of the company's performance and the individual's contribution to the company, the individual's total compensation compared to individuals in similar positions at the peer group of companies, and other individual accomplishments. The Compensation Committee also takes into account the individual's contributions in resolving unanticipated matters, general economic conditions, and any other factors the Compensation Committee deems relevant.

One element of the Compensation Committee's evaluation of performance is a review of the achievement of the pre-determined annual corporate goals. The goals are intended to focus management's priorities in the operation of the company but it is not intended to be the only element in the committee's determination of incentive bonuses. Accordingly, the compensation of each executive officer is based in part on the objective assessment of the achievement of corporate goals and in part on the subjective assessment of factors the Compensation Committee determines to consider at the end of each year with respect to the contribution of each executive to the business of the company.

At the beginning of each calendar year, the Compensation Committee establishes annual corporate performance goals. Corporate goals are proposed by management, reviewed and approved by the committee and also approved by the Board of Directors on an annual basis. The committee considers and assigns a relative weight to appropriately focus efforts on corporate goals that are intended to enhance shareholder value. In January 2009, prior to approving 2008 incentive bonuses, the committee evaluated the company's 2008 performance by assessing if, and the extent to which, the company achieved or failed to achieve the corporate goals approved by the Board of Directors for 2008. The committee conducted this exercise in January of 2009 and it was determined that the company's 2008 performance exceeded the approved corporate goals.

The company's corporate goals for 2008 and the level at which the compensation committee determined they were achieved are as follows:

	<u>Corporate Goal</u>	<u>Relative Weight</u>	<u>2008 Achievement</u>
(1)	Specific revenue targets in the U.S. and the E.U.; specific targets for the number of patients treated with Soliris in the U.S. and the E.U.; targets for global expansion of commercial sales of Soliris in specific number of countries; initiate market authorization process in a specific large market plus a specific number of other countries.	50	125%
(2)	Limit operating expenses to a budgeted target and achieve a target pre-tax profit.	20	150%
(3)	Expand number of indications for eculizumab, initiate clinical development for CD200 monoclonal antibody and in-license of new product candidates.	15	130%
(4)	Reduce manufacturing risk and secure a cost-effective supply chain; progress in validation and approval of Rhode Island manufacturing facility; certify additional vendors.	10	100%
(5)	Evaluate and implement systems and processes to support expanding global operations and organizational growth; complete organizational development, talent development and succession plan.	5	100%
	<b>Totals:</b>	100	127%

In order to better focus the Company's priorities, corporate goals are typically set by the Compensation Committee at a level that is achievable only as a result of superior performance (i.e., stretch goals). The Compensation Committee takes this factor into account in determining annual incentive bonuses.

To optimize achievement of corporate goals, individual goals are set in support of annual corporate goals. Individual goals for 2008 overlapped with our corporate goals for 2008 and consisted of subgoals designed to achieve our corporate goals.

- Dr. Bell's individual goals were identical to the company's corporate goals and Dr. Bell's performance for 2008 was evaluated against achievement of the corporate goals.
- Mr. Keiser's individual goals were as follows: achieve specific revenue targets in the E.U. and U.S. commercial operations; reduce manufacturing risk; and secure regulatory compliance. Mr. Keiser's goals and responsibilities were designed to support the achievement of corporate goals (1) and (4) above.
- Dr. Squinto's individual goals were as follows: expand EXPLORE studies; support Japan submissions and registration; assess new indications for eculizumab; and initiate clinical trials. Dr. Squinto's goals and responsibilities were designed to support the achievement of corporate goals (1) and (3) above.
- Mr. Dubin's individual goals were as follows: defend third party litigations; support business development initiatives and conduct intellectual property due diligence; monitor state and federal compliance metrics; support international legal needs; and manage human resources initiatives and operations. Mr. Dubin's goals and responsibilities were designed to support the achievement of corporate goals (5) above.

- Mr. Sinha's individual goals were as follows: monitor and manage expenses; monitor sales variance reports; conduct quarterly regional business reviews; manage currency risk; support pricing strategy and international structure; and manage IT initiatives and operations. Mr. Sinha's goals and responsibilities were designed to support the achievement of corporate goals (2) and (5) above.

Prior to the committee meeting, Dr. Bell reviewed in detail the performance of each named executive officer, excluding himself, and considered such individual's contributions to the company's success in 2008. Unlike the corporate goals, the committee did not assign a relative weight to 2008 individual goals described above and did not conduct a numerical assessment of achievement.

Dr. Bell's recommendations were primarily driven by the following two considerations:

- 2008 was an exceptional year for Alexion, and each executive, including the named executive officers, contributed to the company's 2008 success. Individual objectives were designed to specifically support the corporate objectives and the company exceeded 2008 objectives, which supports the conclusion that each executive made important contributions to the company's 2008 success.
- Consistent with the company's compensation philosophy (including and most importantly, to pay for performance), and because of the company's success in 2008, each executive's annual incentive bonus should be at or near the median based on the most recent peer group.

With respect to Mr. Dubin, Dr. Bell recommended an annual incentive bonus that exceeded the median, approximately 75% of the peer group. Dr. Bell believed it was important to recognize and reward Mr. Dubin's leadership in contributing to the long-term value of the company through resolving three matters during 2008.

In making his recommendations, Dr. Bell worked closely with members of the Compensation Committee, as well as the company's compensation consultant and limited support from staff and other members of management.

The Compensation Committee discussed Dr. Bell's recommendations for the named executive officers and determined that annual cash incentive decisions for the named executive officers, including Dr. Bell, the CEO, should be consistent with the company's compensation philosophy and determined based primarily in consideration of the following – first, the committee's and Board's assessment of the company's 2008 performance and recognition of the company's achievements in 2008, and second, that due to the company's successful performance, annual cash incentives should be set at least at or near the median of the peer group.

During discussions regarding the 2008 annual incentive bonus for the company's executives, the committee subjectively considered and noted the following factors in assessing the company's 2008 performance:

*Achievement of Alexion's 2008 corporate objectives.* The Compensation Committee determined that the company exceeded its corporate objective targets for 2008.

*Strong financial results.* During Alexion's first full year of Soliris commercialization, the company exceeded revenue targets and achieved profitability for the year, its first full year of profitability.

*Increase in shareholder value.* The committee reviewed the company's three year annualized shareholder return against the peer group and recognized that Alexion's shareholder return was significantly higher than every company in Alexion's peer group, which demonstrates the company's success in returning long-term shareholder value.

*Resolution of matters not anticipated under corporate objectives.* The company, under the leadership of its executives, identified, addressed, managed and favorably resolved several important matters not originally anticipated or covered under the 2008 corporate objectives, including what the company views as favorable resolution of legal matters, further development of European plans, and positive conclusion of Soliris reimbursement discussions in the United Kingdom.

*Success during difficult economic conditions.* The Company's strong performance and the foregoing factors were considered in light of uncertain and volatile market conditions, difficult credit markets and a contracted global economy.

*The company's executives should be compensated at or near the median of executives at the peer group.* After review of the market data, executive compensation, including for the named executive officers, was below the peer group median and was increased to achieve total compensation at or near the median.

The Compensation Committee originally set 2008 incentive bonus targets in January 2008. Based on an analysis of the 2008 peer group data in January 2009, the committee concluded that actual incentive bonuses paid in the previous year (in January 2008 with respect to 2007 performance) were significantly below the median and that 2008 incentive bonuses should be increased to more appropriately reflect the peer group median, particularly in light of the company's 2008 performance. Actual incentive bonuses paid to Alexion's executives in 2008 (with respect to 2007 performance) based on the peer group were below the median — 33% below the median with respect to the proxy data and 25% below the median with respect to the Radford data. In determining incentive bonuses for 2008, the committee believed it was important that incentive bonuses be commensurate with the market median.

In January 2008, the committee established the following annual incentive bonus targets for 2008: 70% for Dr. Bell, 55% for Mr. Keiser, and 50% for each of Dr. Squinto and Mr. Sinha, and 45% for Mr. Dubin. Dr. Bell, Mr. Keiser, Dr. Squinto, Mr. Sinha and Mr. Dubin received annual incentive bonuses in February 2009 with respect to 2008 performance of \$750,000, \$184,000, \$240,000, \$242,000, and \$315,000, respectively, representing 120%, 45%, 69%, 69% and 105% of base salary, respectively.

The Compensation Committee determined that annual incentive bonuses paid for 2008, which exceeded targets except for Mr. Keiser, were fair, reasonable and appropriate based on the factors described above. Mr. Keiser announced his retirement as President and Chief Operating Officer in November 2008. The actual incentive bonuses paid to Dr. Bell, Dr. Squinto and Mr. Sinha were each below the median of the 2008 peer group, although they exceeded the targets set in January 2008.

Mr. Dubin's actual 2008 incentive bonus exceeded the target and the median and was slightly below the 75<sup>th</sup> percentile. The committee considered this award an extraordinary case and concluded that the award was warranted and appropriate in consideration of Mr. Dubin's contribution to the long-term value of the company through the resolution of certain matters in 2008.

\* \* \*

The Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Should you have any questions or require additional information, please telephone either Michael Greco (203-271-8336) or the undersigned (203-271-8906).

Very truly yours,

/s/ Vikas Sinha

Vikas Sinha  
Senior Vice President and Chief Financial Officer

cc: Leonard Bell, Alexion Pharmaceuticals, Inc.  
Thomas Dubin, Alexion Pharmaceuticals, Inc.  
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