

February 21, 2006

VIA EDGAR

Securities and Exchange Commission
Division of Corporation Finance
450 Fifth Street, N.W.
Washington, D.C. 20549
Attention: Jim B. Rosenberg

Re: SEC Comment Letter dated February 7, 2006
Form 10-K for the period ended July 31, 2005

Ladies and Gentlemen:

This is in response to the comment of the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") on the annual report on Form 10-K for the year ended July 31, 2005 of Alexion Pharmaceuticals, Inc. (the "Company").

As previously announced by the Company in its current reports on Form 8-K filed with the Commission on December 14, 2005 and January 11, 2006, the Company has recently changed its fiscal year end from July 31 to December 31 and in connection with this change intends to file its transition report for the five month transition period on Form 10-K/T on or about March 10, 2006 (the "Transition Report"). The Company appreciates the Staff's comments intended to improve the transparency of the applicable disclosures in the Company's filing. Towards this end, the Company proposes to further enhance disclosure in its Transition Report to be filed shortly. The Company would greatly appreciate the Staff's willingness to review the Company's response and proposed disclosure on an expedited basis and to work with the Company on resolving any remaining issues that may arise in connection with the Company's response in time for the filing of the Company's Transition Report.

For reference purposes, the Staff's comment is reproduced in bold with the Company's response immediately following.

Comment:

Form 10-K – July 31, 2005

Financial Statements

2. Collaborations, page F-12

1. Your disclosure under “Research and Development Expenses” on page F-9 states that your net costs reimbursed under collaborator agreements against your research and development costs. Your Form 10-Q for the period ended October 31, 2005 indicates that you are currently reassessing the viability of the projects under development with P&G due to the failure to show statistical significance of one of your projects. The disclosure appears to suggest that you have major agreements where the costs incurred on each project may be material. Please provide to us in disclosure type format the disclosures required by paragraph 14(b) of SFAS 68 related to these and the other collaborative projects disclosed in this note to better allow an investor to understand the impact that these agreements have on your financial statements. Also provide in disclosure type format a better discussion within your liquidity section of the impact of these agreements on your operations.

Response:

To address the Staff’s comment to provide disclosure required by paragraph 14(b) of SFAS 68, the Company proposes to enhance in its Transition Report in the section “Notes to Consolidated Financial Statements” the disclosure substantially in the form as it appears below. For ease of reference, the subsection on the P&G collaboration is reproduced below with the disclosure addressing the Staff’s comment underlined.

“Procter & Gamble Pharmaceuticals Collaboration
(amounts in thousands)

In January 1999, we and Procter & Gamble Pharmaceuticals (“P&G”) entered into an exclusive collaboration to develop and commercialize pexelizumab. We granted P&G an exclusive license to our intellectual property related to pexelizumab, with the right to sublicense.

In December 2001, we and P&G entered into a binding memorandum of understanding, or MOU, pursuant to which the January 1999 collaboration was revised. Under the revised structure per the MOU, we and P&G share decision-making and responsibility for all future U.S. development and commercialization costs for pexelizumab, including clinical, manufacturing, marketing, and sales efforts. The revised collaboration per the MOU provides that we and P&G each incur approximately 50% of all Phase III clinical trial, product development and manufacturing, and commercialization costs necessary for the potential approval and marketing of pexelizumab in the U.S. and that we will receive approximately 50% of the gross margin on U.S. sales, if any. P&G agreed to retain responsibility for future development and commercialization costs outside the U.S., with us receiving a royalty on sales outside the U.S., if any. We are responsible for royalties on certain third party intellectual property worldwide, if such intellectual property is necessary. Additionally, as part of the MOU, we will receive milestone payments for achieving specified development steps, regulatory filings and approvals.

We and P&G have agreed, as per the MOU, that we will share concurrently 50% of the ongoing U.S. pre-production and development manufacturing costs for pexelizumab as well as any AMI or CABG Phase III clinical trial costs.

P&G has the right to terminate the collaboration or sublicense its rights at any time. If P&G terminates the collaboration, as per the MOU, P&G is required to contribute its share of agreed to obligations and costs incurred prior to the termination, but may not be required to contribute towards obligations incurred after termination. In such circumstance all rights and the exclusive

license to our intellectual property related to pexelizumab would revert back to us and we would be entitled to all future pexelizumab revenues, if any, without any sharing of revenues, if any, with P&G. If P&G were to sublicense its rights, the sub-licensee would be required to assume all of P&G's obligations under the collaboration.

We are recognizing a non-refundable up-front license fee of \$10,000 related to the P&G collaboration as revenue over 17 years representing the average of the remaining patent lives of the underlying technologies at the time the payment was received in fiscal 1999. We recorded this payment as deferred revenue. We recorded revenue related to this upfront payment for the five month period ended December 31, 2005 and the years ended July 31, 2005, 2004, and 2003 of \$245, \$588, \$588 and \$673, respectively. Additionally, we recognized a milestone payment of \$4,000 during the year ended July 31, 2004.

Our net share of total expense related to the collaboration was \$17,805, \$36,358, \$15,902, and \$25,016, for the five month period ended December 31, 2005 and the years ended July 31, 2005, 2004, and 2003, respectively. The majority of costs incurred under the collaboration were paid by P&G, which in turn obtained reimbursements from us based on the cost sharing arrangement noted above. For the costs we incurred under the collaboration, we received reimbursements from P&G in the amounts of \$269, \$1,470, \$1,551, and \$2,971 for the five month period ended December 31, 2005 and the years ended July 31, 2005, 2004, and 2003, respectively.

We rely on P&G for the development, manufacture and potential commercialization of pexelizumab. Termination of our agreement by P&G or sublicense of its collaboration rights could cause significant delays in the development, manufacture and potential commercialization of pexelizumab and result in significant additional costs to us. Under terms of our MOU we may be obligated to reimburse P&G for 50% of cancellation costs under P&G's third-party pexelizumab manufacturing contract. Our portion of those cancellation costs could amount to as much as \$8,000."

Further, to address the Staff's comment to provide a better discussion in the liquidity section of the impact of the P&G collaboration on the Company's operations, the Company proposes to enhance in its Transition Report in the section "*Liquidity*" the disclosure substantially in the form as it appears below. For ease of reference, the subsection on the P&G collaboration is reproduced below with the disclosure addressing the Staff's comment underlined.

"The following table summarizes our contractual obligations at December 31, 2005 and the effect such obligations and commercial commitments are expected to have on our liquidity and cash flow in future fiscal years. These do not include milestones and assume non-termination of agreements. These obligations, commitments and supporting arrangements represent payments based on current operating forecasts, which are subject to change:

	(in millions)				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Contractual obligations:					
Convertible notes payable	\$ 150.0	\$ —	\$ —	\$ —	\$ 150.0
Interest expense	13.6	2.1	4.2	6.3	1.0
Capital and operating leases	12.3	2.5	4.4	4.9	0.5
Total contractual obligations	\$ 175.9	\$ 4.6	\$ 8.6	\$ 11.2	\$ 151.5
Commercial commitments:					
Clinical and manufacturing development	\$ 55.2	\$ 18.8	\$ 36.4	\$ —	\$ —
<u>Clinical and manufacturing development related to collaboration with P&G</u>	<u>20.0</u>	<u>20.0</u>	<u>—</u>	<u>—</u>	<u>—</u>
Total clinical and manufacturing development	75.2	38.8	36.4	—	—
Licenses	3.7	0.5	1.4	1.4	0.5
Research and development	0.3	0.2	0.2	—	—
Total commercial commitments	\$ 79.2	\$ 39.4	\$ 37.9	\$ 1.4	\$ 0.5

P&G Pharmaceuticals Collaboration

(amounts in thousands)

In December 2001, we and P&G entered into a binding memorandum of understanding, or MOU, pursuant to which the January 1999 collaboration was revised. Under the revised structure per the MOU, we and P&G share decision-making and responsibility for all future U.S. development and commercialization costs for pexelizumab, including clinical, manufacturing, marketing, and sales efforts. The revised collaboration per the MOU provides that we and P&G each incur approximately 50% of all Phase III clinical trial, product development and manufacturing, and commercialization costs necessary for the potential approval and marketing of pexelizumab in the U.S. and that we will receive approximately 50% of the gross margin on U.S. sales, if any. P&G agreed to retain responsibility for future development and commercialization costs outside the U.S., with us receiving a royalty on sales outside the U.S., if any. We are responsible for royalties on certain third party intellectual property worldwide, if such intellectual property is necessary. Additionally, as part of the MOU, we will receive milestone payments for achieving specified development steps, regulatory filings and approvals.

We and P&G have agreed, as per the MOU, that we share concurrently 50% of the ongoing U.S. pre-production and development manufacturing costs for pexelizumab as well as any AMI or CABG Phase III clinical trial costs. Our net share of total expense related to the collaboration is expected to be approximately \$20,000 in 2006 and will primarily be related to completion of clinical trials.

P&G has the right to terminate the collaboration or sublicense its rights at any time. If P&G terminates the collaboration, as per the MOU, P&G is required to contribute its share of agreed to obligations and costs incurred prior to the termination, but may not be required to contribute towards obligations incurred after termination. In such circumstance all rights and the exclusive license to our intellectual property related to pexelizumab would revert back to us and we would be entitled to all future pexelizumab revenues, if any, without any sharing of revenues, if any, with P&G. If P&G were to sublicense its rights, the sub-licensee would be required to assume all of P&G's obligations under the collaboration.

We rely on P&G for the development, manufacture and potential commercialization of pexelizumab. Termination of our agreement by P&G or sublicense of its collaboration rights could cause significant delays in the development, manufacture and potential commercialization of pexelizumab and result in significant additional costs to us. Under terms of our MOU we may be obligated to reimburse P&G for 50% of cancellation costs under P&G's third-party pexelizumab manufacturing contract. Our portion of those cancellation costs could amount to as much as \$8,000. "

The Company would like to supplementally disclose to the Staff that the Company considers its collaboration with P&G to be the only major agreement with respect to which the costs incurred on each project may be material. The Company proposes to revise its current disclosure on p. 34 under "*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations*" and on p. F-9 under the section "*Notes to Consolidated Financial Statements*" to specifically refer to the P&G collaboration instead of using the term "certain research agreements". The revised disclosure will be incorporated in the Company's Transition Report to be filed on or about March 10, 2006.

The Company acknowledges that (1) it is responsible for the adequacy and accuracy of the disclosure in the filing; (2) that the 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 (3) 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.

We hope that the foregoing has been responsive to the Staff's comment. If you should have any questions about this letter or require any further information, please call the undersigned at (203) 272-2596.

Very truly yours,

/s/ Vikas Sinha
